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FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



ERNEST FIORE

THE LES BUILDING NEAR FREDERICK, MARYLAND

NOTES

The Life Extension Society (LES), founded in late December, 1963 by Evan Cooper, was the first organization devoted to promoting the concept of cryonics, the freezing of people at clinical death for possible later reanimation. (The term "cryonics" itself was coined in 1965 by Karl Werner for the Cryonics Society of New York, which was originally part of LES.) Sixty issues of the LES newsletter were issued from January 1964 until it ceased publication with the issue dated September 1969 (which was actually published several months later). At first the publication was known simply as Life Extension Society Newsletter, but with issue no. 8 (Jan. 1965) it acquired its better-known title, Freeze-Wait-Reanimate. The newsletter is an invaluable source on the early history of cryonics.

Assembling a complete file of issues was difficult, and the following individuals are to be especially thanked for their assistance: Jerry Cullins, Mike Darwin, Robert Ettinger, Saul Kent, Ted Kraver, and Jerry Leaf. Although the newsletter was copyrighted it is believed that the copyright is unassigned now that LES has long been defunct and since Cooper was lost at sea in 1982 without heirs.

The present volume, which contains all sixty issues in photocopy form, is being issued for educational and historical purposes by Alcor Life Extension Foundation, a cryonics organization in southern California. It is recognized that some loss of quality occurred in the copying, particularly in halftone images, and that the originals were not always perfect to begin with; however the writing should be intelligible throughout. Consecutive numbering has been added at the bottom of each page for reference. Also, most back covers have been omitted, since they were either blank or contained addressing information only. When in addition there are illustrations the back cover has been included. It is hoped that the newsletters will be an aid to cryonics historical research and to cryonics in general.

Mike Perry, September 1990

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FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY NEWSLETTER
Washington, D.C.

THE CONFERENCE

The last weekend in 1963 rang down and out with perhaps the world's smallest conference and time's most imposing title: The First International Conference on the Scientific Prospects for Physical Immortality. The number depends on how adept you are at counting shadows, waitresses, correspondents, and broadcast recorders. Twenty registered, eighteen paid, while fifteen were able to attend.

Larry Jensen opened the morning conference by affirming that practical aging control, for all the promise of present research, lies in the distant future. Therefore, we should get down to business on a freezing program for those who wish a plan for preservation in the event of any immediate deaths. The person so preserved would then wait until reanimation and aging control procedures had been developed, even if it took centuries. First, as the problem is largely one of information distribution, Larry specifically suggested that we make available a brochure, or short information sheet, on both the idea and the best information available at present on freezing procedures. Second, that we form a foundation as an aid in effecting the preservation and extension of life. Third, that a summary of the conference be sent to science writers.

Larry, who teaches at Castleton College, where they call him the ice man, is one of the original formulators of the freeze and wait theory. He has helped spread the idea on radio broadcasts, wrote to President Kennedy in May, gave a talk at Green Mt. College, where the response was highly positive, and has taken out \$10,000 in extra insurance to guaranty a very cool resting place in the event of death.

Bob Ettinger led the afternoon session which was primarily a continuation of the morning's attempt to find and agree on a program. (Bob's book The Prospect for Immortality, is being published by Doubleday, presumably under the same title, and will be to the reviewers in May and the bookstores in June. This most likely will be the greatest stimulus to the movement so far) There were the usual differences of opinion both days with such strong-minded individualists. However, the name Life Extension Society was adopted until and unless a better one can be found.

A committee of three: Bob Ettinger, Larry Jensen, and Ev Cooper, was appointed to investigate the more formal creation of a foundation.

It was suggested that Dr. Joseph Still, or some other willing expert, be asked for their opinion on the best freezing procedures. This information will be printed on wallet-sized cards and for the information brochure and revised in the light of new facts.

More on the conference and the participants at a later date. May we use the remaining space to present information, and to ask you for information, suggestions and opinions.

AGING CONTROL

The significant event of 1963 in aging control may have been the publishing of Hans Selye's book Calciphylaxis, and the development of the ideas it describes. It is a very technical and detailed tome. A popularization of this book and the implications of the discoveries can be found in the December '63 Reader's Digest. The theory is that aging is one of the results of calciphylaxis, the sensitization of tissues to calcification and then the transfer of calcium upon the introduction of a challenging agent. The calcium transfer is the cause of aging in large part. Experiments indicate that this aging can be slowed or controlled by the circulation of iron compounds through the tissues which capture the calcium and keep it from settling. Though the practicality of aging control lies well into the future, Selye is optimistic enough to say that "it appears quite probable that we shall be able to prevent the man of 60 from progressing to the condition of the man of 90."

KIDNEY TRANSPLANTS

Before 1964 began approximately 250 kidney transplants had been attempted. The first several were tried as far back as 1906. Though the failures overwhelm the long term successes, they are, even now, providing recipients with longer lives. The future appears more promising with the increasing use of monkey and ape kidneys.

In competition -and cooperation- are artificial kidneys, as yet bulky and therefore external. These are restrictive, bothersome, expensive, but moderately successful. One person has been using this substitute for almost four years. Minuturization for convenient internalization and portability is presumably next.

RESUSCITATION

If the West has been making good progress with kidney transplants, the USSR has been stressing resuscitation and has reported several unusual cases. In Minsk, S.L. Libov resuscitated a 21 year-old man with a heart-lung machine after he had been clinically dead 43 minutes. The anti-coagulant heparin had been injected in his system. In the other, earlier case, V.A. Zhmur and S.N. Efuni reported restoration after the electrical activity of the brain had been totally extinguished for 17 minutes. One-half year later there were no neurological disorders in the patient.

COMPLETE ORGANISMS FROM A SINGLE ADULT CELL

F.C. Stewart in the October 1963 Scientific American provides considerable food for thought in his report that scientists "have been able to stimulate adult cells to grow again -even to grow entire plants from single rejuvenated cells!" If this carries over in the future to animals, it would appear to be one more

avenue of possibilities to the extension of human life.

Peter Kline suggested at our informal discussions a year ago that the information in a single cell should be a great aid in reconstruction at any future date. Bob Ettinger and Fred Pohl discussed this briefly at this year's conference. Presumably we should consider setting up sample cell banks, in addition to regular body freezing, for all of the possible benefits of duplicate information easily stored and well-preserved.

REQUEST FOR INTELLECTUAL AND MORAL SUPPORT

We would greatly appreciate the attention of the scientific community (especially, but not exclusively) to the theory of freeze-and-wait, with the possibility of eventual reanimation and the establishment of aging control. Inasmuch as ordinary people won't consider a new idea until it is approved by those they believe to be authorities, or is partaken of by their friends, we should like to compile a list of those who consider the theory a reasonable project of investigation and action. Would you write us sending your support, your criticism, or your rejection?

We ask this as we wonder if scientists -and others who know of the theory- don't have a moral obligation to make the best effort possible in supporting and spreading the idea? If 1% of the world's population dies per year this seems to mean that as many as 30 million per year go to their deaths unnecessarily. Shouldn't they at least be presented with the information that there may eventually exist a longer, even richer, life for themselves if they will have their bodies frozen at death? If so, many things can be done: One, your intellectual or scientific support is needed if you agree. Two, many individuals are needed to specifically state and arrange for their eventual freezing. Three, some pioneers are needed to inaugurate a breach in the dead hand of customary burials. These would be people who are currently at death's door and would opt for the frozen burial.

It goes without saying that none of this could conceivably be final. Let us follow the scientific evidence and always be willing to change. But let us not -because of a pathetic conservatism or a failure of nerve and imagination- let that minority of optimistic individuals, who might avail themselves of freezing, slide to oblivion because we cared not enough of individual human life to support the idea and to inform others.

(End of sermo)

SUBSCRIPTION AND MEMBERSHIP

For one dollar we offer a yearly subscription to our most irregular newsletter, and membership if you wish, in the Life Extension Society. A "freezing card" will be available shortly also. Until those who handle the mail know the name, it will be more certain of delivery, if you will address communications as follows: Life Extension Society, c/o 20th Century Books,*

1500 Harvard Nw., Washington, D.C., 20009

* Non-profit also. A scientific educational program, similar to Great Books, except exclusively concerned with the significant books and ideas of this century.

NEXT ISSUES: THOSE OPTING FOR FREEZING. MORE ON FREEZING CARDS

LIFE EXTENSION SOCIETY NEWSLETTER
Washington, D.C.

THE FREEZE AND WAIT THEORY:

For those who may be new let us review something of the general idea.

In various places on this planet there exist a small number of heady scientific optimists. They consider that scientific research will progress in the future until some form of aging control is practical. The problem, for the individual, with the ever present danger of death, is to bridge that gap until one may possibly take advantage of aging control. Most people upon being presented with this problem rather easily and quickly arrive at one possible solution. That is, to freeze the body, near to or at death, and store it at cryogenic temperatures. If one assumes aging control possible it seems reasonable to assume that science will eventually be able to reconstruct and reanimate a properly frozen body. Though we loosely term that body dead, it has lots of life suspended within its frozen architecture. To this general end our society and newsletter is dedicated.

CANINE HEARTS COOLED TO -7 C AND TO -14 C (6.8 F) WITH REVIVAL:

Each month brings an improvement in the ability of researchers to cool whole organisms and organs below the freezing point of water, store them for varying lengths of time, and then revive them. Hamsters, for example, have been cooled to -5 C, with half of the water in their cells frozen, including brain cells, and reanimated with long term survival.

It is reported from Portland by Robertson et al. that young canine hearts can withstand unexpectedly low temperatures and yet survive. These hearts were excised from the animal, treated, cooled, stored, and had to withstand transplanting in another animal for varying lengths of time as a criteria for good function and viability.

The authors say that in our present state of ignorance the physical and mechanical events of thawing and freezing which cause destruction in some complex tissues are not understood. It isn't the cold that hurts, it is the transition between the unfrozen and frozen states. They add that survival would be possible if a way were found to instantaneously freeze and rewarm. Then storage for any length of time would be feasible. Instantaneous freezing being unavailable, the authors proposed to skin the cat another way by using hydrostatic pressure in one series of experiments and cell-protective compounds in another series.

For hearts under a pressure of 2,000 to 4,000 pounds per square inch a slight improvement in survival was demonstrated in comparison to control hearts. The control hearts were stored for approximately one day at 4 C, and the pressurized hearts for one day from 2 C to -2 C. Perhaps an example of one of those minute steps that science takes in the solution of a problem.

A larger step was taken by the use of chemical agents dimethyl-sulfone and dimethyl sulfoxide. Control hearts stored at -7 C without protective perfusion were damaged after a short interval. Hearts with protective perfusion were stored for approximately 24 hours at -7 C and exhibited strong regular beats after transplatation. Hearts held at lower temperatures, but for lesser lengths of time, would resume strong synchronous beats.

LETTERS TO THE EDITOR & THE SOCIETY

Life Extension Society

Thank you for your letter regarding freezing people so they will be preserved until such time as aging control procedures are developed.

We have never frozen people here at Revco, but see no reason why it couldn't be done adequately in the following:

SZC-859

ULT Chest

\$2598.00

Roomy interior
Pulldown -140 F.

Prices are net FOB Deerfield.

If the person purchasing plans to freeze himself, terms are cash with the order.

We have a jealous regard for the dependability of our equipment and were pioneers over 25 years ago in the development of ultra low temperature cabinets; however, since some people being frozen may plan to remain in the freezer "for centuries", we feel obligated to point out the standard commercial warranty is one year. Also, as service may be required after the owner is frozen, we are concerned as to how he will notify us, and who will pay service charges. This problem would intensify as time went on, particularly after a hundred or so years.

We welcome the opportunity to supply your people freezing requirements, and will be happy to send literature for all 15 people who attended your International Freeze and Wait Conference.

Let us know when we can help you.

Sincerely yours,
REVCO INC.
J.E. Hirssig,

Life Extension Society

Thank you for your letter of January 29. We do not currently produce a refrigerator suitable for the storage of human cadavers in the frozen state. Early in 1965 we do expect to have equipment based on liquid nitrogen refrigeration which would be adaptable to this application.

One gathers from the newsletter which accompanied your letter that your organization is interested in the problem of reviving cadavers after storage in the frozen state. Such an objective can be expected to require extreme care in cooling and warming operations. We do not have freezing equipment of the size required for such experimentation although we know of no theoretical reason which would prevent its construction.

For the long-term storage of biological materials of smaller dimensions we have a variety of liquid nitrogen refrigerators. Controlled-rate cooling and freezing equipment to process biological materials to cryogenic temperatures such as cells and tissues is also available. Under separate cover you will receive brochures describing such equipment.

Sincerely yours,
Union Carbide Corporation ..
A.P. Rinfret, Director, Human
Biological Processing Systems

THOSE PRESENTLY PREPARING FOR FREEZING IN THE EVENT OF DEATH:

Bill Albaugh
Ev Cooper
Alan Ettinger
Bob Ettinger
Larry Jensen
Peter Kline

These are the persons to date that the editor is fairly certain wish to be frozen unless or until aging control becomes practical. They have either been specifically asked or have written to this effect. Others may wish to be listed to augment a number that appears to be 7 parts in 3 billion. If so, write us to that effect. We don't wish to neglect anyone. Neither do we wish to list someone we are doubtful of or might embarrass.

Fred Pohl*
*(qualified)

FREEZING CARDS:

Although to date we haven't been able to concentrate the best scientific and linguistic minds of our planet on the exact phraseology of our freezing cards we will present several possibilities.

POSSIBILITY A
(front side)

EMERGENCY NOTICE: IN EVENT OF DEATH

This is to certify that I wish my body frozen immediately in the event of my death and stored at as low a temperature as possible. My bequest has been made with the full knowledge of my next of kin. (See reverse side)

Signed _____
Witnessed _____
Witnessed _____
Location & date _____

A
(reverse side)

Preferred: Perfuse with glycerol while lowering body temp. 1 C/min to -50 C, transfer to liquid nitrogen (-196 C). (See instructions included)
Alternative: Decrease temp. via ice, dry ice, &/or with any deep freeze device, to as low as possible.

Doctor & phone _____
Information phone _____
Life Extension Society
2011 "N" Street N.W. Washington, D.C.

POSSIBILITY B
Side 1

\$1,000 REWARD
IN CASE OF MY SUDDEN DEATH
For quickly following directions on other side.

Signed _____ (address)
Witnessed, next of kin _____ (telephone)
Witnessed, attorney _____ (telephone)
Witnessed, physician _____ (telephone)
See reverse side

B
Side 2

- \$1,000 REWARD (See reverse side.)
1. Stop any bleeding, give transfusions.
 2. Apply artificial respiration and external heart massage.
 3. Continue (1) and (2) even though dead. If death is certain, cool body with ice, continuing (1)&(2).
 4. Call all telephone numbers on the reverse side quickly.
 5. For detailed instructions on artificial respiration and heart massage, see folder in breast pocket.
-

-Some persons, either in seriousness or in good humor, claim that \$1,000 is too much and wish it reduced to \$100. Thus, in printing the cards a space may be left open to indicate the reward. Perhaps several types of cards should be printed to provide a greater degree of choice. Until then, and until other corrections may be suggested, one may excise these, fill them in, place them back to back and encase them in plastic. As Gerald Gruman and Fred Pohl among others have suggested, we should and will try to set up a telephone answering service when feasible. As these cards can never be considered the final word we would like to hear your suggestions and corrections.

BOB ETTINGER'S BOOK:

Bob has informed us that his book may be out as early as April 15th to the reviewers and in the bookstores shortly thereafter. Bob has been on tenderhooks for months and understandably for it will be a great event both for him and the additional people who learn of the freeze and wait theory. We will be holding discussions on the book as it becomes available in the Washington area. All those who wish to take part contact the editor. The title will presumably be the same as the first offset edition: The Prospect for Immortality. The publisher is Doubleday.

SUBSCRIPTION TO THE NEWSLETTER AND MEMBERSHIP IN THE SOCIETY

For one dollar, at present, we offer a yearly subscription to our most irregular newsletter, and membership if you wish, in the Life Extension Society, which is a non-profit organization. We now have a new and better mailing address:

Life Extension Society
2011 "N" Street N.W.
Washington, D.C. 20006

NEXT ISSUE: WHO WAS THE FIRST PERSON TO SUGGEST THE FREEZE AND WAIT IDEA? (If you know of anyone before the 18th century let us know?)

A LAST PLEA:

If you know of someone in danger of death, ask yourself if you may not have an obligation to inform them of the freeze and wait possibility. This is hard to do for inertia of custom and tradition are almost impossible to overcome and mankind will only change by infinitesimal steps. This is a pretty big step, but the alternative, the traditional grave offers nothing as far as is known. - A current play by Hochhuth suggests that silence, when it might save lives, is an evil. The difficulty of speaking up, and the possible evil of silence puts each person in an unenviable position. But if enough people will speak up the frozen suspensions will begin and increase in number. Then it will be increasingly easy to speak up and you will be glad you had the courage to start.

* * * * *

LIFE EXTENSION SOCIETY NEWSLETTER
Washington, D.C.

BIG NEWS OF THE SUMMER:

Bob Ettinger's book The Prospects of Immortality was released by Doubleday June 5th, coinciding with a short serialization in Cosmopolitan, and a thoughtful article by Fred Pohl in Playboy. Quite a number of radio and TV stations carried and are continuing to carry interviews of Ettinger and discussions of the freeze-wait-resuscitate idea. Bob's book has been translated into French, and LES members report seeing it in paperback on the Paris newsstands.

The book itself is a marvel of lucidity and forceful writing. Among the many contributions, the emergency dry ice freezing and storage suggestion is of special interest because the next step is the actual preservation by freezing of a person who has just "died." The dry ice method is an emergency method, for it is preferable that the lower temperatures of evaporating liquid gasses be used, but the latter are not always available. Dry ice is in much more common supply, easier to handle, and the cost of cooling can be made less expensive with sufficient insulation. The temperature of dry ice (-78 C) is lower than any ordinary deep freeze. Depending on the insulation and the number stored, Ettinger estimates that the cost could run from \$4 to 10¢ per frozen person per day. An inexpensive storage unit could be built with sufficient room for the person's body and a compartment for dry ice immediately above. The body would be transferred when a better storage system became available.

Response to the book has been varied from enthusiasm to irritation with anything so revolutionary. It has been reviewed by a number of the major mass media publications indicating they are considering the possibility that Ettinger's is a significant book.

Jean Rostand wrote a preface stating that the idea is solid. Gerald Gruman with his extensive background knowledge of the history of the concept of immortality wrote a second preface noting how great ideas such as this have often taken considerable time in taking hold. Penicillin, for example, is said to have taken 16 years between its discovery and its use.

Congratulations are more than in order. It is a great event toward the defeat of death.

JOHN HUNTER, 1766, CONTEMPLATES FREEZING AS A DEVICE TOWARD LIFE
EXTENSION

"Experiment. In the year 1766 two carp were put in a glass vessel with common river water, and the vessel was put into a freezing-mixture. The water surrounding the fish froze very rapidly on the inside of the glass all round. When the freezing-process approached the fish it became, as it were, stationary; and the remaining water not freezing fast enough, in order to make it freeze sooner, I put in as much cold snow as made the whole thick. The snow round the carp melted. I put in more snow, which melted also. This was repeated several times, till I grew tired, and I left them covered up to freeze by the joint

JOHN HUNTER continued

operation of the mixture and the atmosphere. After having exhausted the whole power of life in the production of heat, they froze; but that life was gone could not be known till we thawed the animals, which was done very gradually. But with their flexibility they did not recover action, so that they were really dead. Till this time I had imagined that it might be possible to prolong life to any period by freezing a person in the frigid zone, as I thought all action and waste would cease until the body was thawed. I thought that if a man would give up the last ten years of his life to this kind of alternate oblivion and action, it might be prolonged to a thousand years: and by getting himself thawed every hundred years, he might learn what had happened during his frozen condition. Like other schemers, I thought I should make my fortune by it; but this experiment undeceived me.*" The Life of John Hunter, F.R.S. by Drewry Ottley, Haswell, Barrington and Haswell, Philadelphia, 1841.

Some have noted a hint of good natured jockularity in Hunter's comments. Naturally he didn't carry out freezing of humans for his experiments with the carp were negative and he probably wasn't as conscious as we are of the future solving presently unsolved problems. That he got as far as he did in his speculations is probably a result of his scientific curiosity, his absolute passion for temperature experiments, and his willingness to consider new possibilities.

HUMAN REDUCED TO 5.4 C WITH NO CIRCULATION FOR 1½ HOURS WITH SURVIVAL

Tokyo. Tatsuyuki Kudo of the Department of Surgery, of Keio University, has reported that on December 19, 1962, a young man in need of radical surgery was reduced in temperature to 5.4 C with total body circulatory arrest for 1½ hours. "An absolutely bloodless surgical field was obtained, being so unusual that it has been described as cadaveric...The patient regained consciousness postoperatively and showed no mental or other kind of disturbances."

This extremely low temperature was obtained by withdrawing the blood and substituting an artificial solution (Ringer's solution containing polyvinyl-pyrrolidone in 4% concentration) which is "better than blood as a coolant" in the professor's opinion.

HUMAN REDUCED TO 4 C with NO CIRCULATION FOR 10 MINUTES

Woodhall and staff, of Duke University, reduced the temperature of a man in need of a brain operation to a body temperature of 4 C briefly, and a brain temperature of 11 C on January 16, 1959. The patient survived was discharged from the hospital, but died in May of 1959 from continuing tumor growth.

Both Kudo and Woodhall have been pioneers in research in substitute solutions for the blood during cooling. Neither imagines the human body cannot be taken to lower temperatures. R.J. Wilder of Baltimore, who has reduced dogs to 3 C with survival, phrases the present state of advance rather nicely by saying: "There is no mystical significance about the level of 3 C. However, as attempts were made to reduce the body temperatures to this extreme range, technical factors were multiplied." Dogs in fact have been lowered to 0 C with survival.

HARVARD HAMSTERS TAKEN TO ZERO CENTIGRADE FOR 4 HOURS

Several years ago it was considered something of a phenomenon -and indeed it was- to take hamsters to zero for even a short time and expect survival. Now C.E. Huggins and two undergraduate students of Harvard report, "we have found that a significant percentage of hamsters can be kept in a state of cardiac arrest at 0 C. for four hours with permanent complete recovery."

The method appears to be similar to that of Andjusz of Budapest and the classic simplicity of Audrey Smith's freezing experiments. The hamsters were put in jars and placed in a domestic freezer at -17 C. After sufficient cooling they were packed in ice to their nostrils. After being held for four hours at zero they were resuscitated by placing a heated teaspoon near the heart and generally warming with two 100 watt bulbs. It is easy to imagine this becoming a standard biology experiment in future highschools and colleges.

What makes the Huggins-Lane-Flickinger report especially endearing is one of their summary statements: "It is hoped that the principles of this empiric technique may someday be applied successfully to man." Dis.of Chest, July 1964)

VARIOUS ADVANCES: KIDNEYS FROZEN BY PERFUSION OF GAS FROM LIQUID NITROGEN

Abstracts of papers to be given at the first annual meeting of the Society for Cryobiology in Washington, August 24th to August 26th, indicate that the frontier for even conservative cryobiologists is in freezing and resuscitating whole organs, especially the kidney.

Researchers at NIH have frozen dog kidneys briefly (temperature not given) reimplanted them, and had two survivals out of ten.

Researchers from Montreal and McGill indicate success with canine kidneys perfused with DMS(dimethyl sulfoxide), cooled at 2 C/minute to -100 C and then transferred to liquid nitrogen (-195 C). After seven days at liquid nitrogen temperatures they were quickly thawed and returned to the donor animal.

Paris researchers report somewhat similar results with rat and dog kidneys frozen to -170 C. The interesting advance of Schimmel et al is perfusion of the kidneys first with DMS and then they are "frozen by perfusion of gas from liquid nitrogen" under pressure.

I.M. Bush of Sloan Kettering Institute, New York, reports the freezing of the intact left kidney of 40 rats in liquid nitrogen to -100 C, with survival of all animals except two after rapid thawing.

AMBULANCES WITH COOLING UNITS SUGGESTED

Thousands of operations have now been carried out under cooled or cold body conditions. It is an accepted method of slowing down body processes while the operation is taking place. In brief it is a slowing and holding maneuver. (A mere thirty years ago it was considered fatal to let the patient's temperature drop below 94 F)

A next logical application of hypothermia(cooled body condition), or cold storage, is to make it mobile instead of only using it in a fixed place, such as in a hospital. Depending on how quickly the victim is reached and cooled, hypothermia can stave off further

AMBULANCES WITH COOLING UNITS SUGGESTED continued.
deterioration for several hours. Without cooling, cardiac arrest victims suffer brain damage, or are lost, after approximately 10 minutes. Those who cannot be resuscitated with current means could be taken to cryogenic temperatures where they could be held until they could be repaired and reanimated in the future.

It can be predicted with confidence that this idea will be slow in taking hold. When one of the local world's experts on hypothermia and perfusion was exposed to this idea he said he saw "zero need for this type of thing at present."

WASHINGTON AREA LIFE EXTENSION SOCIETY CHOOSES OFFICERS

During our June meeting the following officers were chosen: Bill Albaugh, treasurer; Eleanor Wesolowski, corresponding secretary; Jean Kern, recording secretary; John Prince, Jr., vice-president; and Ev Cooper, president. The bylaws are available thanks to the energy and effort of Bill Albaugh to anyone who wishes a copy. Though we acted as a local unit because most members of the Life Extension Society are in the Washington area, and communication in the early stages of our organization is still a problem over distance, we do hope all of you will consider this temporarily acceptable, with offices and voting rights, etc. open to all.

MISCELLANEOUS: FREEZE CARDS, SUBSCRIPTIONS, SUGGESTIONS, NEXT ISSUES

Members and subscriber's freeze-cards are enclosed. Request more cards if they are needed. Non-members and ad-hoc-subscribers are more than welcome to a card upon request if they should decide they wanted their bodies frozen in the event of death.

Subscriptions to our informal irregular newsletter are one dollar per year at present. Indicate whether you wish to be a member also.

As a number of members think that the main problem at this stage is getting that first person frozen for the distribution of the idea and the encouragement of others, suggestions are solicited. Write your suggestions and submit them.

Our next issues will carry some of these suggestions as well as ideas for developing LES into a better more efficient organization. -Apologies in taking so long in getting this issue to you. Vacations were long and pleasant, but summer like death is a thief of time.

Life Extension Society
2011 "N" Street N.W.
Washington, D.C.
20036

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LIFE EXTENSION SOCIETY NEWSLETTER
Washington, D.C.

SOCIETY FOR CRYOBIOLOGY SEEMINGLY NERVOUS ABOUT THE FREEZE-WAIT-REACTIVATE HYPOTHESIS:

Though "it is the expressed purpose of the SOCIETY to PERPETUATE an INTERDISCIPLINARY Approach to the problems of Cryobiology"(their caps) that broadminded approach did not include any public embrace of the freeze-wait-reanimate suggestion. -It is the custom at these meetings for one of the more articulate core of the society to jovially introduce each contributor before he presents his paper. This year by way of introduction, the very funny thing that happened on the way to the convention was to hear about an author from Detroit (Ettinger) who was suggesting freezing for humans. The intoducer said jovially he hoped that none of the micro-biologists would present papers on this. At another time the listeners heard of a letter sent in by a mortician asking for instructions in freezing. This was thought to be very amusing. So, if a person were to judge the feeling of the society from what was heard from the floor, it did not encourage the further discussion of this new idea with other members. Some few individual members this listener happened to speak to about the idea were interested, however.

The number of members by the first annual meeting was approximately 600! Cryobiology is going places (see below) but it is going places conservatively and in large numbers.

CRYOSURGERY AND TELEVISION ELECTRON MICROSCOPES:

The contributors at the cryobiological conference gave a number of interesting papers of some small but solid advances in the freezing of organs, as reported in the previous issue of our newsletter. However, one additional door into the future was ajar which deserves mention. Reports on the advances in cryosurgery indicate the removal and repair of tissue under cryogenic conditions allows the surgeon increasing control and discrimination in his work. Just as hypothermia slows the life processes allowing the surgeon time for longer operations, so cryogenic temperatures point to a time when the surgeon may operate at his leisure so to speak.

More recently there have been reports of television electron microscopes that magnify 2 million times. -A paper-clip would be 32 miles in length if so enlarged. (New York Times, September 23, 1964)

If microscopes such as this were coupled with cryosurgery they might eventually open the way to cellular repair at the molecular level, or close to it.

SECOND ANNUAL FREEZE-WAIT CONFERENCE IN WASHINGTON D.C., JAN. 2, 1965

Carrying on a long and venerable tradition we will hold our second winter conference on the freeze-wait-reactivate movement, Saturday, January 2nd, 1965. Anyone from anyplace on the planet is welcome. Please do not expect a grand extravaganza. Some who came long distances last year expected it to be a greater event than it was. It is quite doubtful if any of the great names of science will be in attendance. -Though they would be totally welcome. There will be no ferocious debates on the freezing point of the soul, no glittering display of freezers from industry -though we would like to see what they have available- and no bank of microphones to carry our message of good news for the future via Telstar to an expectant planetary audience -though we would love to. Rather, given the real world with its informational

lags, apathy, and our own poor organizing ability, this conference will be simply a small gathering to exchange ideas, information, and plan for the next year and the future as best we may. So, if it is easy for you to come do so, but don't come if it means wasting your resources and almost killing yourself to make it. Though the final arrangements have not been made, the conference will take place much as it did last year with a morning session, luncheon, afternoon session, informal discussions and visiting beyond that as the participants so desire. The cost will be five dollars. As with all LES activities, the conference will be run on a non-profit basis.

DUPLICATE CARD IDEA: It appears as if we are in complete favor of the gods, for Marie Phelps Sweet, of Santa Barbara California has joined LES bringing with her a whirlwind of energy, a fund of common sense, loads of experience in public service and progressive causes, and some excellent suggestions.

One of these is the suggestion that each person, wishing to be frozen in the event of death, should send in a duplicate of the card that he or she has filled out, for our LES central file. The advantages are that in case of any dispute, a person's intention would be recorded separately and on file. -We shall also guard the privacy of that information zealously if that is the individual's wish. It also gives us a more accurate count of those preparing for freezing, and an additional proof of the person's intention. As the number grows it will encourage others to consider the freezing alternative. -And, given sufficient time there will be a central record of those awaiting reactivation. In short, it will give increased security and protection to the person and aid to others in turn if they wish it.

So, if you are not on file in duplicate, and you wish to record your intention, please fill in a duplicate card, mark it as such, and send it to LES, 2011 "N" Street N.W., Washington 36, D.C. If you do not have an extra card, please ask for one. New members will be provided with duplicates. When the next thousand are printed (we have nowhere near that number wishing to be frozen) Marie suggests that we have the duplicate printed attached to the original.

THE TOM TIERNEY PHENOMENON: California has brought forth (via Bob Ettinger's book) another dynamo of energy and action, Tom Tierney. Writing in July and asking about LES we suggested he start a group of interested people in Panorama City. Tom agreed to start a non-profit chapter of LES there and apparently has done so. Tom must be very persuasive. He writes: "Following are a few who wish to be frozen at death. They have given their permission to print their names in the newsletter.

Ray Carter, Terry Shockey, Jerry Smart, John Penny, Tom Tierney, & Maxine Tierney, and our sons Wayne Hollen, Terry Hollen, Tommy Tierney, and Kenny Tierney."

NON-PROFIT A MUST FOR LES:

As Tom Tierney has said: "This is a life or death program. This is not the time to think of money." To keep the confidence of our members, and to act in correspondence with our bylaws, it can hardly be stressed enough that LES people be extremely careful in these financial matters.

LETTERS ON ICE

Dear Ev Cooper,

Thank you for the copy of Life Extension Society's Newsletter. I am very interested in your freeze and wait idea. If science will continue to progress at its present pace, and I see no reason why it would not, sooner or later, either the bio-chemists or other medical scientists will achieve a break through into sustaining human life beyond its present paltry period of existence.

It seems to be that we who are alive now are rather unfortunate in being born about a century too soon. This idea therefore of freezing the newly dead human body and storing it ready for future scientists to re-animate is a bold, imaginative and courageous suggestion.

However, whilst your society are enlightened on this conception, it may be well to consider some of the objections of those who will oppose it.

(a) The expansion of the earth's population up to explosion dimensions might well deter any scientists of the future re-animating stocks of millions of frozen bodies to add further to the protoplasmic congestion of a groaning planet.

(b) Unless there is some protective continuous organization set up, dedicated with a fanaticism to see that stored bodies are brought back to life, we might be trusting posterity too much to do the necessary for frozen lives.

(c) The bodies that are frozen must be bodies that are not too mutilated by disease. Brain cells can be so damaged before death for instance, that on re-animation the person would be an imbecile. Still, it can be argued in this case that a science that could bring back life to frozen dead could even look after a problem like that.

(d) Storage space for millions of frozen bodies may also prove a problem, but there is always the Arctic and Antarctic -incidentally the low temperature of these regions would be a "natural" for the grave yards of the deep frozen bodies.

(e) There will be strong opposition from religious organizations who believe in "pie in the sky" after death as we move around in bodies made of fog. Perhaps these people can be answered best by agreeing that if they are right, then our scheme will fail, as future science will not succeed in bringing us back to life if their primitive belief is a correct one. So why should they interfere with us?

(f) The vultures who now bury us may lose a lot of revenue, and will oppose, if freezing and storage can be done more cheaply, on the other hand, it may be more costly and those creatures will take it over as a new and better money spinner.

(g) Some difficulties could be created if a married man dies at thirty (and is frozen) and later his wife dies at eighty (and is also frozen), for on re-animation he could not expect a great deal of glamour from his wife. A father could die at thirty and his son at ninety. Who then be the father on re-animation?

I have listed these obstacles, because in your campaign they will have to be faced. Perhaps (g) at least could be answered in the belief that these future scientists will be able to average out the age of anybody to say late youth. ...

Please let me hear from you again. Could you tape your next conference, or, at least high lights from it? ...

Very best wishes and great success to your project.

Yours sincerely,
Gerald Evans

(Swansea, Glamora, Great Britain)

Editor's note: Evans wrote two stories, PEBBLES OF DREAD & UPWARD BOUND, and had them published "twenty of so years ago," and lost his only copies. If anyone locates copies could they let the author see them?

LETTERS ON ICE

Dear Sirs,

I wish to become a member of L.E.S. I have discussed the prospects of immortality and "freeze and wait" with Dr. Larry Jensen in Vermont on several occasions during the year. I felt as he does that this is the key to the future: a future I never thought possible.

This year I will be a junior at Pratt Institute and am studying Industrial Design. I have discussed the merits of life extension with many people at school and in my home town. The interest displayed has been startling. I think many of my friends will soon join. At least they have been challenged with justifications that can't be denied.

However, I can't conceive of anyone who would take a polio vaccine, not realizing that freeze and wait is nothing more than an extension of the vaccine's purpose - that of extending life. I consider my life worth extending.

I would appreciate receiving news of all developments in technology and acceptance by the public of L.E.S.

The concept of this society shakes me. It is and will be the single most important step in my life, of this I feel sure. I can sense a change in my outlook now. So many times you meet people you can pass off by saying, "I won't have to worry about them, I won't see them again, anyhow." Now, there is the possibility people can no longer overlook their contemporaries if death is no longer an excuse.

The technological phase I'll have to leave to others, but the social aspects have really stimulated my mind. I like this stimulation. It's good. It makes people or breaks them. It dates them and challenges their fundamental beliefs. This is my request for membership."

Donald Briddell

(Now in Brooklyn, New York)

Dear Sirs:

Please send information concerning your society and, if possible, details for obtaining membership. I am not afraid to die, however, I am not afraid to extend my lifetime. In sooth I would not wish immortality on anyone, not even myself. Extension but not indention.

Sincerely,

R.L. Feldman

Wheatridge, Colorado

Dear Ev,

Your letter and comments were highly flattering to receive. I find it again necessary to applaud you and the society for the great courage to promote such unconventional ideas and to take a position which may for a long time be very unpopular. Immortality and revival of the dead are not only tied closely to questions concerning scientific plausibility but religious metaphysics as well. The fact that a man might rise back from the dust refutes the major premises of most religions today. You will have to contend with the skepticism of the public, the slow, hyper critical plod of science and the unrelenting arguments of theology.

In spite of these reasons for not joining your society I shall do so. I do so on the conviction that great revolutionary ideas always seem to reach acceptance by reason of their virtues alone, however belatedly they become approved. Let me be listed on your books as one who saw bounteous merit in a modern vision. In regards to your correspondence, yes, you have my permission to use my last letter or any subsequent one (however unerudite they may be!) for your publication. My apologies as to the confusion of indention and indenture, I am afraid that I was sacrificing meaning for rhyme scheme.

Best Wishes,

R.L. (Ron) Feldman

(Apologies to Ron from the editor who forgot about poetic license)

WHAT IS THE RADICAL VIEW OF AGING CONTROL AND IMMORTALITY?

Man's major age-old dreams have been to accomplish: flight through the air, transmutation of metals, travel through space, the creation of life, and immortality. He has had quite some interesting and notable success with the first three. Nobelist Muller says, though it isn't commonly recognized, that the basics of the creation of life have been solved. A few people like Ettinger, Duhring, etc. think we are perhaps immortal right now provided we arrange for freezing in the event of any general disfunctioning. But they don't stress or think that aging control is directly around the corner. That is why freezing, as a stop-gap holding device is necessary for the immediate present.

Now comes Desmond King-Hele with a short article entitled "Incineration, inhumanity or immortality?" guessing that "the most important" key discovery in the next twenty years "will be the elucidation of ageing." (New Scientist, 13 August 1964) If research is accelerated "the next ten years may point the way to the end of that other quest." He concludes: "We should consider soon how to act if immortality is imminent, instead of leaving the problems entirely to writers of science fiction."

It is most gratifying to see that the word immortality is increasingly entering common scientific parlance. It is also gratifying to hear the radical suggestion that in ten years we may see a way through the ageing phenomenon. This makes conservatives of Duhring with his 50 year intimation, and Ettinger with his suggestion of perhaps hundreds of years, before aging control is practical. However, if mathematician, scientist Desmond King-Hele is suggesting that we haven't already solved all of the problems of "how to act if immortality is imminent" then we must admonish him that he just hasn't kept up with our literature on the subject.

SUBSCRIPTIONS: Subscriptions to our informal, irregular newsletter are one dollar per year at present. Next year the price may go up in our effort to expand and regularize service. If you have subscribed to the newsletter, membership is merely a matter of intention. Indicate if you wish to be a member.

FREEZE-CARDS: Members and subscribers receive freeze-cards which are a method of recording your intention to be frozen, if that is your desire, in the event of accidental death, etc. Non-members and non-subscribers are more than welcome to a card upon request if their intention is the same.

PROBLEM: We remain with the problem of getting that first person frozen. Presumably, the actual freezing and preservation of a person, whose death was inevitable anyway, would carry the idea further, more pointedly, than it has been carried before, as well as opening the way to a possible future life for the person so frozen. It would also provide encouragement to others who are contemplating the idea but lack the nerve and imagination to be first. If anyone is to be frozen -or has been frozen- it is hoped that it won't be kept secret, for as above, the knowledge that it has actually been done will provide strength for others. If someone is to be preserved by freezing, and privacy is desired, it goes without saying that LES would be glad to make the general announcement keeping the particulars private. As far as we know, however, the initial problem remains. What have you to suggest?

Life Extension Society
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Washington 36, D.C.

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LAST MINUTE ANNOUNCEMENTS:

Received a packet of 20 questionnaires from Bob Ettinger who requested that one be sent to each member. So, they will be included as far as they go. If you don't receive one, we will discuss the contents -the possibility of setting up a liquid nitrogen freezer, etc- at our October 6th meeting.

LES MEETING:

Tuesday evening, 8pm, October 6th

ALDO CAFE, 1143 New Hampshire Avenue, N.W.

-This is just off "M" Street, between 21st and 22nd N.W.

NUMEROUS THINGS TO DISCUSS:

RESEARCH: DMSO research indicates that dimethylsulfoxide may be superior as a perfusate to glycerol. What do you think of that?

Discussion of the possibilities of setting up a liquid nitrogen freezer.

Speculations on who will be first to be frozen and when?

We meet in one of the rooms toward the back of the restaurant. There is no minimum, we have been assured by the manager. However the restaurant probably won't be adversely affected if we order something like coffee and desert. Coffee, for example, is 25¢/cup, 40¢/pot, and rum cakes 50¢.

LIFE EXTENSION SOCIETY NEWSLETTER
Washington, D.C.

AN OPEN APPEAL TO SCIENTISTS, DOCTORS, AND RESEARCHERS IN THE BALTIMORE AREA FOR KNOWLEDGE AND HELP

The Prediction and the Problem: Most of you have heard the prediction that it will become possible for humans to be frozen into suspended animation and revived later, even centuries from now. This hypothesis is receiving considerable publicity. A copy of an article before me is entitled: "SCIENCE SEEKS TO FREEZE OUT OLD AGE"

"Washington. (AP) - A pioneer in kidney transplants forecast Wednesday that victims of organic ailments may eventually be frozen in suspended animation and later returned to life when replacement organs are available...These seemingly science-fiction concepts, he (Dr. Richard Lillehei of the University of Minnesota) declared, actually appear to be within science's ultimate reach." (The Society for Cryobiology met August 24-26, 1964)

A number of people have taken the idea seriously enough that they consider freezing -in the event death is imminent anyway- preferable to the grave or the furnace. They have given specific instructions that they wish to be frozen in that event, knowing full well the risks.

Now the problem becomes: (1) What is the best way to go about it? and (2) Who is willing to help perfuse, cool, and freeze the body?

These are the questions we ask of you. Could you possibly take a moment to answer them to the best of your knowledge? Preferably we would like your opinion, even if you think that someone else may be better qualified to answer the questions, and then pass them on to the next person. To stimulate replies we are giving you something to consider in spite of some risk of narrowing solutions. On the next page you will find tentative directions for PERFUSION, COOLING, AND FREEZING THE HUMAN BODY. If another method toward the end of long term preservation doesn't come to mind, perhaps you could comment on this one. Tell us where it should be changed, amended, or altered in any way. We are totally open to suggestions, and much in need of them.

Concerning the second question: Would it be possible that you would be willing to help with the processes of perfusion, cooling, and freezing? Could we list you to be referred to for help in this direction?

Thirdly, we are in need of advisors for our Advisory Council. Would you be willing to serve?

Lastly, you may wonder why we chose to send this appeal to scientists in that particular area? Quite simple. As it is still a novel idea, you are just far enough away that you are not likely to try to get us incarcerated in St. Elizabeths in case you take violent exception. More important you are in an area renowned for its progress in science and its open-mindedness to new ideas. We are taking a chance that you will be interested and willing to consider that the future of our universe is wide enough and rich enough for such a thing as this to come to pass. Let us hear from you? Your willingness to answer may go a long way toward saving and extending life.

PERFUSION, COOLING, AND FREEZING THE HUMAN BODY

It is assumed that the person under consideration has either expressly stated that he wished to be frozen at or after death, or that would have been his express desire.

The general plan is to cool the body as thoroughly and evenly as possible, via extracorporeal circulation, with a cold perfusate toward the end of maximum cellular preservation with special concern for the brain. The body temperature is to be gradually lowered into the cryogenic ranges.

Either thoracotomy with direct heart cannulation, or the largest possible catheters may be introduced into the superior vena cava and the inferior vena cava via the external jugular and femoral veins. The inflow can be through the femoral and carotid arteries. The type of cannulation is a matter of choice and conditions. The venous blood is drained until the returning perfusate may be recooled and recirculated with benefit. Or, the fresh perfusate may be constantly introduced for maximum effectiveness, until the cells are thoroughly perfused, and circulation is impossible because of freezing.

A type of perfusion, similar to this has been performed to obtain organs for homografts.¹ "In clinical use, insertion of the catheters was not done until the patient's death had been verified by the attending physician. In these instances, heparin was added to the perfusate in the amount equal to 3 mg. per kilogram of body weight of the proposed donor."¹ If the time needed to insert the catheters and begin perfusion exceeds five minutes from the time of clinical death, circulation should be maintained by closed chest or open-heart massage as the case may be. A heat exchanger and pump are needed to cool and pump the perfusate through the body. The rate of flow would probably range from 60 ml. per kilogram per minute, initially, to 5 ml. per kilogram per minute, or less in the lower temperature ranges.¹

The perfusate should be composed for maximum survival. Exactly what this may be can only be estimated at present. Most research indicates²⁻⁵ maximum cell survival in a 10% dimethyl sulfoxide (DMSO) medium. The mediums used have been homologous serum, physiologic saline, Ringer's solution, etc. A 10% solution of glycerol is perhaps second best to DMSO. If selective perfusion and individual attention to each organ and tissue were possible that might be preferred. Here we assume that at present only one general perfusate is practical.

Perfusion would preferably take place in conjunction with external cooling via a refrigerator, deep-freeze, ice, dry ice, or the gradual introduction of liquid nitrogen. Whatever combination is possible should be used to lower the temperature as evenly as possible at approximately 1° C. per minute to -50° C., and then reduce to -195° C. with liquid nitrogen.

With procedures not established as yet, approximations, substitutions and improvisations will be necessary. Therefore, this must be considered most tentative with changes to be made as research findings and clinical use indicates.

October 1964

For further information, or for suggested changes, write:

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Washington 36, D.C.

1-5. (Footnotes on next page)

Footnotes to previous article:

1. Marchioro, T.L. et al. Extracorporeal perfusion for obtaining post-mortem homografts. Surgery 54:900 (December) 1963.
2. Bloch, J.H. Preservative solutions for the freezing of whole organs in vitro. Federation Proceedings, Vol. 22, No. 2, Part I, March-April 1963, #59.
3. Lehr, H.B. et al. Permanent survival of frozen rat skin autografts. Federation Proceedings. Vol. 22, No. 2, Part I, March-April 1963, #382.
4. Sherman, J.K. Dimethyl sulfoxide as a protective agent during freezing and thawing of human spermatozoa. Federation Proceedings, Vol. 23, No. 2, Part I, March-April 1964, #1566.
5. Mueller, F.O. et al. Use of deep-frozen human cornea in full-thickness grafts. British Medical Journal, #5407, August 22, 1964.

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RESEARCHERS AT WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE STUDY THE REFRIGERATION, STORAGE, AND REVIVAL OF BRAINS

Dr. Robert J. White, of that university, recently said, "We feel that the brain can be stored at low temperatures, perhaps for days, in a special refrigerator unit, then revived and used." (Science News-Letter, October 24, 1964) Two beliefs are gaining currency: that the brain is not as delicate as commonly thought, and the brain is quite receptive to cold temperature. If other tissues and organs can be lowered in temperature, stored, and revived, there is no reason why the brain cannot be treated somewhat similarly. Though the present storage times are short and temperatures are correspondingly high in comparison to cryogenic temperatures, this is another downward step. It carries some obvious implications and alternatives for the freeze-wait-reanimate movement.

Dr. White and assistants have also been able to completely isolate a monkey brain, remove it entirely from the body, and keep it alive and functioning for as long as 18 hours. (New York Times 6/8/64) It is also their belief that a transplanted brain does just as well as a kidney transplant.

They have also investigated such things as naso-oral perfusion with ice-water to protect the integrity of the brain after the heart and breathing stop.

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ATTITUDES BECOMING MORE FAVORABLE TOWARD THE FREEZE-WAIT POSSIBILITIES

Last month we reported some of the more negative attitudes toward the freeze-wait suggestion at conventions. This month we ^{are} overjoyed to report Dr. Lillehei's optimism toward the idea and The Sciences very fair presentation of the hypothesis. (Vol. 4, #3, August 1964, published by the New York Academy of Sciences)

Lillehei considers it possible that astronauts could be deep-frozen for their voyages to distant star systems. They would not age while frozen. Nor would they be as susceptible to radiation damage. Upon arrival they would be reanimated automatically. Naturally the essentials would have to be proven out on earth first, and in animals before humans. The confidence in the possibility of freezing, storing and reanimating animals and humans comes from recent studies in the use of cold for preservation.

LES, NATIONAL? INTERNATIONAL? OR LOCAL?

At our "First International Conference.." in December 1963, in Washington, it was informally decided that LES headquarters would reside in Washington as a convenient point of information exchange with all other points. By mid-1964 though we were still few in numbers, the Washington area had the heaviest concentration of members or interested persons with group discussions on the freeze-wait-reanimate idea going back to 1962. Though we did choose officers from Washington, Maryland and Virginia only, this was the best that we could do at that moment for reasons of time and practicality. We notified the other members and interested parties outside the Washington areas in the newsletter, and asked their indulgence of such action as a temporary working arrangement until we could gather in their votes at an annual meeting, or by whatever method could be arranged. As we said then: "Though we acted as a local unit because most members of the Life Extension Society are in the Washington area, and communication in the early stages of our organization is still a problem over distance, we do hope all of you will consider this temporarily acceptable, with offices and voting rights, etc., open to all." (Vol. 1, No. 3)

Since then we have members, and/or persons who have specifically notified us that they wish to be frozen in the event of death, from Japan to California to Ecuador to France. Marie Phelps-Sweet of Santa Barbara has been appointed Coordinating Secretary, and Marc Collet is willing to be an LES representative in France. Bob Ettinger is willing to be placed on our Advisory Council, and others have been asked if they would consider serving also. So, we certainly are international in intent, in membership, and we are now trying to broaden our advisory and managing areas.

TIERNEY'S GROUP NOW INDEPENDENT, AND ETTINGER CONSIDERING A COMMERCIAL VENTURE

Tom Tierney's group, feeling the urgency of getting something done in the way of organization and freezing, considers that they will get there faster on an independent track. Tom informs us that his group voted to withdraw from LES. We accepted, and welcome them back at any time. His group, apparently, will set up a non-profit, self-sustaining organization that can finance itself and not have to go to foundations for funds. We know that they will do very well in that wonderful Southern California region. We intend always to remain in close contact. Tom will remain a member of LES as an individual.

Bob Ettinger also feels that the physical freezing program has been too slow, and to remedy this he is considering beginning a commercial operation for the freezing and storage of bodies. He is more than willing to go full steam ahead, with any engine that can carry the freight, profit or non-profit. Bob is becoming increasingly doubtful, however, that a nonprofit organization can get the program in motion. In spite of his turn toward the commercial venture he will continue to help LES, and in fact work with any organization that is doing a good job.

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LETTER TO THE EDITOR :

dear ev--

thanks for the newsletter. stop moaning about resistance to new ideas and act. nor is self-laceration, self-pity an excuse for inaction. you are, to be very blunt, doing more waiting than freezing.

the pedant in me: the bad grammar and bad writing of the newsletter might well be remedied before going to press.

have you personally planned specifically for freezing? what is that plan?--the facts would be valuable as an example if printed in the newsletter. if you have not planned, then you are a hypocrite.

intentions & speculations, hell!--let's see action.

fine letters from gerald evans and bob ettinger.

cordially,

leonard gilley

colorado 80223

2325 south galapago st., denver,

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SECOND ANNUAL FREEZE-WAIT CONFERENCE IN WASHINGTON, JAN. 2, 1965

Carrying on a long and venerable tradition we will hold our second winter conference on the freeze-wait-reactivate hypothesis, Saturday, January 2nd, 1965. Anyone from anyplace on the planet will be welcome. Please do not expect an elaborate conference. Some who came long distances last year expected it to be a greater event than it was. This conference will be simply a small gathering to exchange ideas, information, and plan for the next year and the future as best we may. So, if it is easy for you to come, do so, but don't come if it means wasting your resources and almost killing yourself to make it. Though the final arrangements have not been made, the conference will take place much as it did last year with a morning session, luncheon, afternoon session, informal discussions and visiting beyond that as the participants so desire. The cost will be three (3) dollars. Send a check, preferably, made out to the Life Extension Society. As with all LES activities, the conference will be run on a non-profit basis.

Life Extension Society
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20036

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A PROBLEM OF WHEN TO FREEZE

In quite a number of discussions with scientists and other knowledgeable people, the feeling is often expressed that we should only begin freezing after it has been proven that a person can be frozen, stored, and then revived from that frozen state unharmed.

Those of us who are advocates of the freeze-wait-reanimate possibility suggest freezing right now - in the event death is inevitable anyway - rather than wait until the theory is completely proven. The following are our reasons:

1. Most important, the human is lost for good unless something reasonable is attempted. He hasn't a ghost of a chance in the furnace or the grave. We don't know his chances in the freezer, but they are without doubt better than with our traditional methods of disposal.
2. It doesn't appear as if freezing would do any harm, and it might possibly do much good. First, the person might gain a longer life. Second, if he could not be revived, there remain the spare parts for others. Third, the attempt may provide a stimulus to research and future suspension achievements.
3. We don't need to know now the perfect method of perfusion and freezing. Those who have been more primitively perfused and frozen "now" may simply have to wait longer until more sophisticated tools and techniques of reconstruction and reanimation have been developed.
4. It would appear as if something strange is developing ⁱⁿ the relation between the present and the future that is uncommon to our past experience. We are planning for a number of processes we cannot do now, but think we have a good chance of doing in the future provided we get to work on them. The moon and Mars are examples close at hand. No one has gone there, set foot, returned, and proved that it could be done. Yet it is reasonable that it can be done, so we are at work now. We wonder if it isn't the same or similar with reanimation from the frozen state?
5. Isn't it quite possible that future generations will comment on our generation as follows: "Isn't it a pity that they didn't freeze our ancestors?"... "If they had only frozen them we could easily reanimate them."... "What was it? The death-wish? No faith in future generations? Or didn't they really care about the individual? Or was it that they had such a pinched view of the universe that they couldn't conceive room for the continuation of the individual and progress also?"

But, we as advocates of freezing now, have to ask if in our enthusiasm we have gone beyond reasonableness in our arguments? We certainly would like to hear your views on this problem?

LAST MONTH'S SUGGESTIONS ON FREEZING AND THIS MONTH'S SUGGESTIONS

In our October issue we had a one page set of very tentative instructions for perfusion, cooling, and freezing our friend the large sapient homeotherm in distress. It was sent to approximately 100 scientists, doctors, and researchers in the Baltimore area and to a few others elsewhere. The response was no deluge. But among the few replies, none were negative though some problems were raised. On the whole the thoughts expressed were very encouraging and open the way for further discussion with those expert in low temperature medical research.

This month Bob Ettinger submits his views on the same subject. Again we should like to hear your opinion and your suggestions.

BODY PREPARATION AND FREEZING

Interim Suggestions

A detailed and authoritative set of specific instructions for body preparation and freezing, covering all likely contingencies, is not yet available. Meanwhile, it is hoped these suggestions, based on recent reading and conversation, may be helpful.

1. If the trained personnel and specialized equipment are at hand, and if the manner of death permits, procedure should probably be as follows:

a. Use artificial respiration and cardiac massage to prevent deterioration while the heart-lung machine is being readied. Use ice packs to reduce body temperature. Use heparin to prevent clotting.

b. Use the heart-lung machine with heat exchanger to continue cooling the body and to perfuse it with a protective solution. Perhaps the cooling should proceed to about 10°C , circulating blood; then switch to perfusate, drawing off venous blood.

c. The perfusate should probably be 15% dimethylsulfoxide (DMSO) by weight or volume; exact ratio not critical. ((Drug grade DMSO obtainable from Crown Zellerbach Corp., Camas, Washington, at \$5 per pint or \$35 per gallon.) Since DMSO in this concentration is appreciably toxic at body temperature, it should probably not be added until the temperature has been reduced. The best vehicle is probably blood plasma with heparin. Lacking DMSO, one may use 15-20% glycerine solution.

d. The length of time required for thorough perfusion is not clear. Some cells, in test tubes, are well perfused in less than a minute, but other cells, in the body, may require much longer. Perhaps an hour of circulating the perfusate at 10°C might be a reasonable compromise, with sufficient perfusion and not too much deterioration.

e. After perfusion, cooling should probably proceed slowly, about 1 deg C per minute, at least down to -27°C . Measurement and control of cooling rate are difficult, but probably reasonable results can be obtained by using cold packs consisting of alcohol-resistant brittle-resistant plastic bags containing a slush of dry ice with alcohol. After this, liquid nitrogen should be used to cool down to storage temperature. Needless to say, the body when frozen will be brittle and should not be dropped.

2. In the absence of a heart-lung machine with personnel, paragraph (b) above must be modified, using mouth-to-mouth respiration and cardiac massage, and introducing the perfusate another way.

BODY PREPARATION AND FREEZING continued

Perhaps the best automatic device for artificial respiration and cardiac massage is the Closed Chest Heart Lung Machine of the Rand Development Corp. The piston pushes down on the sternum for about 1/3 second, one stroke per second, depressing the sternum about 1.5 in. to 2 in. with a force adjustable from 20 lb to 180 lb. Room air is used, via face mask or intratracheal tube, following every fourth stroke of the sternum piston, delivering 700 to 1500 cc of air per respiration. The machine runs on a 12 volt storage battery, and can be mounted on a wheeled litter.

If such a machine is not available, one must use manual depression of the sternum and mouth-to-mouth respiration. As indicated above, the frequency of sternum depression should be one per second, and the force enough to depress the sternum between 1.5 in. and 2 in. in an average size adult, with the pressure lasting only about a third of a second (or a little more, according to some studies).

Then air should be blown into the mouth, with enough force to expand the lungs, after every fourth chest compression, at the moment the pressure is released.

Proper execution requires a team of two. Since the chest compression, especially, is hard work, a relief team is desirable.

If only one person is available, then it has been recommended to use 15 compressions of the chest followed by two rapid inflations of the lungs.

It may be desirable to avoid physical contact in giving mouth-to-mouth respiration, especially in the case of certain diseases. Tubes for this purpose are available at first aid stores, e.g. Johnson & Johnson Resusitube or Ventibreathe, at prices between \$1 and \$5.

To introduce the perfusate in these circumstances, it seems to me one could, while continuing the closed chest procedures, use the ordinary hydrostatic (hanging bottle) method used, e.g., to give intravenous glucose, although there may be difficulties that haven't occurred to me. (Or if an embalmer's help is at hand, his equipment could be used; e.g. the "Turner PortiBoy Pressure Embalmer" provides either constant or pulsating pressure, and sells for \$189.50.) Needless to say, the methods should be practiced in advance.

If blood plasma is not available as the medium, one may use Kreb's solution or Ringer's solution: these can be purchased and stored.

Summarizing, one may say that self-reliance methods require the following, as a reasonable minimum:

ON HAND: at least one person, and preferably at least one team of two, trained in mouth-to-mouth respiration and cardiac massage. Ice, or at least cold water. Anticoagulant (e.g. heparin, 3 mg per kilo--2.2 lb--of body weight) and hypodermic syringe.

QUICKLY AVAILABLE: perfusate as indicated above, method of introducing perfusate as indicated above, dry ice, and an insulated box. Liquid nitrogen should be obtainable within about a day.

3. If circumstances prevent use of the methods above, and if one wants to preserve some chance, however small, one could simply freeze the body without preparation.

BODY PREPARATION AND FREEZING continued

A few pertinent articles are listed; each of these contains many other references, as does my book.

"Closed Chest Resuscitation, An Experimental Study." D.S. Leighninger. American Journal of Cardiology, August, 1964.

"Preservation of bone marrow and blood at cryogenic temperatures." V. Richards et al. Journal of Cardiovascular Surgery, July--August, 1964. (This contains the interesting information that high molecular weight solutes may be useful perfusates; in particular, polyvinylpyrrolidone, PVP, may be superior to either DMSO or glycerine, at least for some cells.)

"Extracorporeal perfusion for obtaining postmortem homografts." T.L. Marchioro et al. Surgery, December, 1963.

"Prevention of Brain Damage During Profound Hypothermia and Circulatory Arrest." Edmunds, Folkman, Snodgrass, and Brown. Annals of Surgery, April, 1963, v. 157, no. 4.

R.C.W. Ettinger
Nov. 8, 1964

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VITAL STATISTICS AND FREEZING PROBABILITIES

Some time soon, if it has not already happened, someone will be frozen. Calculating the odds is interesting in itself. and can also spur us to a sharper realization of the need for physical preparedness.(United States vital statistics for 1959 given)...

What constitutes a typical family among members of the IRCA or the LES? I don't know, but might make a rough guess as follows: a father of 40, a mother of 35, a child of 15 and one of 10, a father or father-in-law of 65, a mother or mother-in-law of 60; a total of 6 people who will be frozen at death.

The probability that all of them will live through the year is $.9961 \times .9984 \times .9992 \times .9995 \times .9656 \times .9866 = .9461$.

The probability that at least one of them will die within the year is .0539.

If there are 13 such families, the probability is almost exactly one half (.4957) that at least one individual will die within the year, if my arithmetic is correct.

If there are 52 such families, the probability is about 94% that at least one person will die within the year (odds one to fifteen) or fifty-fifty that at least one will die within 3 months.

How many families there are who have firmly decided to freeze the next member to die, and what their make-up is, is not known. (It should be gathered.) But my impression is that there are well over 50 such families, and therefore a death will probably occur within 3 months, and of course might occur much sooner.

R.C.W. Ettinger
November 9, 1964

(Editor's note: One LES member has had two members of his family pass away recently and a third a hopeless cancer case with an expected several months to go. He tried in vain to get the family to consider freezing. Being of an extremely conservative bible-belt background they won't consider doing anything their neighbors might question at a time of death. His attempts continue.)

MAN WILL BE UNCHAINED FROM THE BIRTH-DEATH CYCLE

Dear Fellow Members of L.E.S.,

It seems likely that human society is now verging on an era toward which it has been steadily tending for many thousands of years. The concept of the extension of his life has been on man's mind since he first clearly conceived of himself as existing on an individual basis and not in the aggregate of the tribal herd, since whatever time it was when he first plainly foresaw an end for himself and each of those whom he loved. Procreation by physical birth he still has with him as a stopgap feature of his animal past, when in the face of destroying death, the natural process of life may be said to have long before invented a means, not of preserving life in harmonious, unbroken entirety, but of first learning to create it afresh, again and again, in the very teeth of nature's untamed and chaotic forces.

In the light of this view it can be said that mankind has suffered a fate similar to that of the Greek culture- and fire-god Prometheus, who was chained between life and death on a crag in the Caucasus mountains, as the tragic playwright Aeschylus wrote, for thirty thousand years. His liver, for the Greeks the seat of personality and passion corresponding to our "heart," was nightly created anew, and daily torn and devoured by Zeus's vultures.

Zeus's vultures would here represent the kind of Life-in-Death stage of man's evolution that has lasted from his latest plateau of consciousness until now.

And now the time draws on when man will be unchained from the birth-death cycle. This time will come only when we make it come, and as soon as that--when we are not afraid to do it and realize that now, after long suffering, we deserve release. Like the Dantean Odysseus at the pillars of Hercules, when he with his storm-wearied mariners was about to burst forth from the bonds of the secure Mediterranean upon the seemingly limitless and imperilling Atlantic we too shall read the sign on the pillars, ne plus ultra, "No further, ye!" But we should listen to such an injunction of fear no more than Odysseus did, although it may be, after all, that

The deep will wash us down.

Yet we owe it to our own concept of courage to try! It is a good thing, and a heroic thing, and a rare, far-sighted human thing to be a member of the Life Extension Society and to join with others in what one might call hand-to-hand combat with death itself.

Regarding the question raised in Mr. Evans' letter as to whether frozen human beings might, in the midst of a population explosion, crowd the animate ones I think that (1) the birth-death cycle will be brought to a stop by coming in on it from both ends, as one would steady a wobbling top and (2) that this will be done gingerly and gradually and probably not without some conservative reaction at either end. Birth control is beginning on the one side, and life extension on the other. The whole movement is toward an uninterrupted life for the individual, one in which learning and wisdom can accumulate and bear the fruit of virtue, and in which the bravest, fairest qualities of the human spirit may be cultivated without fear of a June frost of extinction. It would raise the whole level of society immeasurably.

Here it is appropriate to include a passage from Professor N.J. Berril's brilliant book, Man's Emerging Mind.

MAN WILL BE UNCHAINED FROM THE BIRTH-DEATH CYCLE continued

We are struggling to embrace time in both directions, but our reach is short. It would be most human to extend it, for such is the quality of our mind that it wants eternity.

I cannot foresee in any specific way what life might be if human beings were not too many but were individually longer and more youthful living and endowed with minds with powers of understanding beyond our conception, except that all that is now immanent within us would be wonderfully expressed--that what we see in the mirror darkly we would then see face to face. If such is our destiny, even as remote possibility, we should never lose sight of it, for as a star to steer by it becons brightly.

This passage also makes clear why we want longer life, and it answers, I think, in part another question raised by Mr. Evans. The question is whether posterity can be trusted to restore "priority." I believe it can. We are, after all, "struggling to embrace time in both directions." Man, when he loves himself, loves and honors all forms of himself, all human races, all ways that are not unjust, all kinds, all selves of the future, and all selves of the past. There is in point of fact a science already devoted to the resurrection of the past, both human and non-human, and that, of course, is the science of archaeology. The point, certainly, to be made here is that mankind may be expected as always and perhaps as never before to be interested in mankind. All who have participated in human life are members of mankind for ever so long as man exists, and those who have loved life enough to refuse to throw it away forever are someday going to have it again. It would be compatible with the philosophy of the Life Extension Society, surely, to knit itself into a closely knit, morally inspired brotherhood that would assure them their chance regardless.

I should prefer to see L.E.S. associated with its own non-profit company, which would run on a business-like financial basis, but which would reinvest its income in the expansion of its own facilities, in the establishment, perhaps, of worldwide branches, and especially in the creation of a research foundation dedicated to a solution of the problems involved in resuscitation. The warnings of Ev Cooper and Tom Tierney are wise ones, not only in the light of sound and enduring ethical principles which have always been associated with matters of life and death, but also from the standpoint of what the organization should be able to achieve without being weakened by profit-taking. Finally, it seems to me that a very likely name for the foundation suggested here would be "The Ettinger Foundation."

Yours sincerely
E. Wesley Walton
Dept. of the Classics
Converse College
Spartanburg, S.C.

N.J. Berrill, Man's Emerging Mind (New York: Fawcett World Library, 1962), p. 230.

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IMMORTALITY RESEARCH AND COMPILATION ASSOCIATION FORMS IN CALIFORNIA

Tom Tierney writes to us as follows:

"We think your write-up of our break with LES is fine. If you would like you could add our name, THE IMMORTALITY RESEARCH AND COMPILATION ASSOCIATION. (IRCA) We intend to do just what our name states. To research and compile.

"The Dr. I mentioned is: Doctor Victor O. Rath, 19231 Victory Blvd., Reseda California. I gave him a copy of Bob Ettinger's book. I am keeping him informed of any new developments.

"Oh, I almost forgot. Our yearly charge is still \$1.00. The few who said they wish to open regional offices will charge an extra \$1.00. They deserve it. Recruiting is work. Most everybody you talk to thinks you are a kook. It takes guts to push the freezer program."

Tom Tierney
P.O.Box 4193
Panorama City, California

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SUBSCRIPTION & MEMBERSHIP TO LES: The subscription to the LES newsletter is currently \$1 per year. Next year a subscription will probably be \$2. Indicate if you wish to become a member. (Freeze-cards are available whether you wish to become a member or not) LES is an incorporated, non-profit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the advancement and extension of human life especially through cryogenic and cryobiological possibilities.

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SECOND ANNUAL FREEZE*WAIT CONFERENCE IN WASHINGTON, JAN. 2, 1965

Carrying on a long and venerable tradition we will hold our second winter conference on the freeze-wait-reactivate hypothesis, Saturday, January 2nd, 1965. Anyone from anyplace on the planet will be welcome. Please do not expect an elaborate conference. Some who came long distances last year expected it to be a greater event than it was. This conference will be simply a small gathering to exchange ideas, information, and plan for the next year and the future as best we may. So, if it is easy for you to come, do so, but don't come if it means wasting your resources and almost killing yourself to make it. Though the final arrangements have not been made, the conference will take place much as it did last year with a morning session, luncheon, afternoon session, informal discussion and visiting beyond the conference as the participants desire. The cost will be three (3) dollars. Send a check, preferably, made out to the Life Extension Society. As with all LES activities, the conference will be run on a non-profit basis.

For further information write:

Life Extension Society
2011 "N" Street, N.W.
Washington, D.C.
20036

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LIFE EXTENSION SOCIETY NEWSLETTER

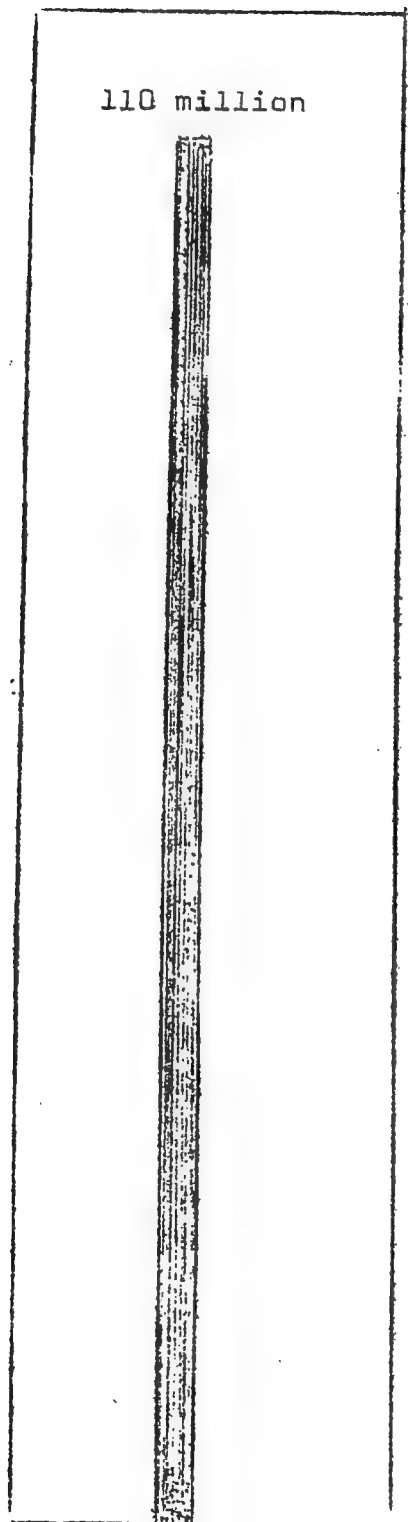


Fig. 1
Number dead 1963-65

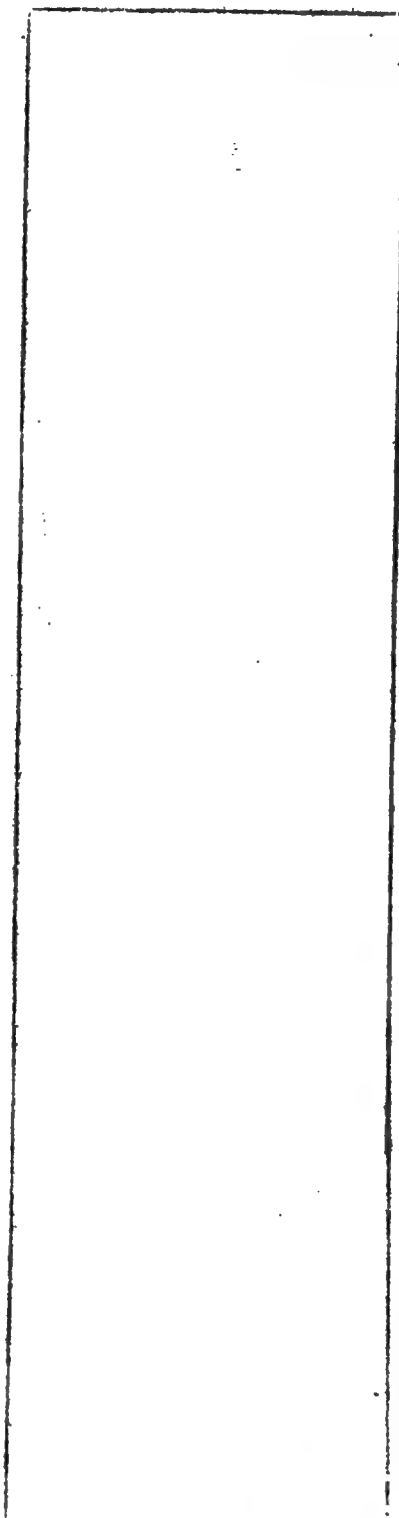


Fig. 2
Number frozen 1963-65

OUR PROBLEM

The first figure shows the number of persons who died (110 million) in the last two years.

The second figure shows the number of persons frozen in the last two years -since freeze-wait-reanimate has been seriously suggested. None.

Are we shouting in the abyss? How could 110 million go to their deaths without one, at least trying for a life in the future via freezing? Where is the individualism, scientific curiosity, and even eccentricity we hear so much about?

No, we are not shouting into the abyss. We have to remind ourselves how slowly customs change and how inefficient our own efforts.

There are, when we reflect, many small signs of progress in the last two years:

books have been written, articles have been published, radio and TV have carried the word, conferences have been held, societies have been formed, and a newsletter has been published.

We are even the focal point for rumor and myth. The Chicago Tribune carried a report that we boasted over 600 members. (We are thankful of the report of our activities however). Another rumor had it that we had 2000 members in the Los Angeles area alone. More accurately we have over fifty members and subscribers, one half of whom have indicated they wish to be frozen in the event of death. Many more would like to begin arranging for freezing if they knew it were possible. Communication, as always, is a problem.

All countries of the planet have been informed through their ministers of health, embassies, UN representatives, scientific institutions and newspapers. -This doesn't mean the people have been informed. Two hundred newsletters are distributed each issue. A rough check indicates that well over 3000 pieces of mail left LES last year. Bob Ettinger's book is in its second printing, has been translated into other languages, and has disseminated the idea extensively.

We are fortunate in having the marvelous support and inestimable services of Marie Phelps-Sweet our Western Coordinator in Santa Barbara. She is the spark-plug of LES. We are indebted to Marie Sweet and Bill Albaugh for funds which have been used for such things as stationery and cryogenic research equipment for hamster experiments.

Our LES French Representative, Marc Collet, adapted our "freeze-cards" to French law, for French-speaking peoples, and had them beautifully printed at his own expense.

Although two years seems like a long time for some venturesome individual not to have taken the freezing possibility, the reasons are numerous, perhaps complex, but understandable. We have made small gains, have many to thank for their work, and look forward to 1965 with more hope than ever.

The UN Statistical Office reports that approximately 56 million persons will die in 1965. As we learn of freeze-wait-reanimate it is utterly inconceivable to us that one or more of all these millions won't arrange for freezing in preference to the grave.

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RESEARCH NOTES:

DOGS * PRESERVED IN A REFRIGERATOR AT -20° C FOR 6 HOURS, TAKEN OUT, AND THEN RETURNED TO LIFE * -TEMPORARILY.

In Italy, in 1960, dogs were cooled by extracorporeal circulation down to 24° C, (the blood partially removed) and stored in a refrigerator at -20° C for 6 hours before attempting revival.

When taken out of the refrigerator, and out of their polythene bags, the dogs were in a complete state of rigor mortis with the skin and limbs congealed. They were "returned to life" by introducing their own blood, which had been preserved separately. The blood was warmed by extracorporeal circulation. Within 15-25 minutes of warming "the function of the heart...and of a great number of other organs showed an astonishing recovery." Breathing returned spontaneously to normal. Though it was astonishing that the animals were actually alive, there was insufficient cortical function and they eventually succumbed.

The report is carried in an editorial of The Journal of Cardiovascular Surgery, September 1960, by Achille Dogliotti, cardiovascular surgeon. Dogliotti concluded: "There are, therefore, biological

DOGS PRESERVED IN A REFRIGERATOR continued limits that for the moment cannot be overcome... One must therefore try to increase their resistance in order to reduce the number of deaths during the postoperative course with symptoms of decerebration." It may be interesting to note that Negovskii with somewhat similar procedures obtained "successful resuscitation..even after periods of clinical death exceeding 2 hrs in duration." Fed.Pro. 23(5)II,932-934.

LAW, BURIAL CUSTOMS, AND THE FREEZE*WAIT*REANIMATE MOVEMENT

As with most human behavior the range of methods for disposing of the dead is as broad as imagination and natural conditions permit. In winter Copper Eskimos bury their dead in ice and snow. The Sea Dyaks and Norsemen had burials at sea. Ancient Romans and Greeks buried the dead in fire. Cremation is now the practice of Hindus and Burmese. Ancient men often abandoned the person where he dropped. The Australopithecines ate the dead. The Chinese have been especially taken by earth burial. Just as our entire intellectual heritage of magic, superstition, and religion is carried on in an era of science so all of these customs of disposing of the dead continue, in part or in whole, today. Anthropology establishes that almost anything has been done, and is being done, with the dead, and in each instance it has become customary.

Now a group of modern cryophiles wish to establish an Eskimo variation in burials with a thought toward reactivation in the future, under the controlled conditions of science. They do this in various environments in which various customs have been codified into law and thus often conflict with the scientific preservation of human life.

These conflicts, then, between science and law are quite parochial, varying greatly from spot to spot across the planet. The conflicts are probably of no great import and can be ameliorated by ignoring or changing those laws detrimental to the preservation and extension of life. If there is a choice between following an archaic law and preserving a human life, it seems obvious that life should be preserved. As soon as possible the archaic laws should be amended.

Ideally laws could be established to facilitate the maximum preservation of individual life, even in the event of clinical death, which we now know doesn't necessarily mean oblivion, and remain consistent with individual rights.

The following are some suggestions most of those in the freeze-wait-reanimate movement would like to see effected:

1. THAT EVERY PERSON HAS THE RIGHT TO THE PRESERVATION AND UNLIMITED EXTENSION OF HIS OR HER LIFE. That is, that each individual has the right to attempt his own preservation, irrespective of race, political or religious belief, location or status, to be aided by society and not thwarted in those attempts.
2. EACH PERSON HAS THE RIGHT TO EXPRESS HOW HIS BODY IS TO BE PRESERVED IN THE EVENT OF CLINICAL DEATH (OR EVEN BEFORE), AND THOSE WISHES WILL BE RESPECTED. (This means that it is the person concerned who has the right to dictate how his body is to be preserved and not those in control of the body, except where it is obvious to experts in preservation that some improvement toward an eventual continued survival is possible)

continued

LAW, FREEZE*WAIT*REANIMATE continued

3. THAT IN THE EVENT A PERSON HAS MADE NO EXPRESS DECLARATION OF THE DESIRE FOR THE PRESERVATION OF HIS BODY AND THE EVENTUAL EXTENSION OF HIS LIFE, AND THAT PERSON MEETS DEATH, HE SHOULD BE PRESERVED, REANIMATED WHEN FEASIBLE, AND ASKED IF HE OR SHE PREFERS TO CONTINUE.

4. IRONICALLY, EVERY PERSON SHOULD HAVE THE EXPLICIT RIGHT TO DEATH OR SUICIDE, ESPECIALLY IN AN AGE WHEN DEATH IS COMING UNDER INCREASING CONTROL. This is so a man may always maintain mastery of his fate and never be in a position that life could tyrannize over him.

5. THAT LAWS BE ENACTED WHICH MINIMIZE THE ABUSES POSSIBLE IN THE FREEZE*WAIT*REANIMATE PROCESSES. To enact laws that would minimize cost and maximize safety through simplicity under scientific direction always open to public examination; and that these processes not be regulated by personal gain or profit but by criteria which would result in the maximum chance of the individual's survival.

LETTERS TO THE EDITOR

Thanks for your letter. Sorry I won't be able to attend any meetings in D.C. but I'm glad to be informed of them anyway.

I think the biggest problem facing the idea right now is that of giving people the courage and determination to arrange for their freezing and that of their loved ones. Among the factors that contribute to this problem are:

(1) the social aspect--the great majority of people just cannot take a step of such magnitude without first seeing others do it.

(2) the practical aspect--the few individuals who do want to make arrangements immediately are burdened with such questions as what doctor would be willing to help a ("dead") patient become frozen, where can the freezer be obtained, will any hospital treat such an idea with any degree of seriousness, etc.

(3) the financial aspect--the factors mentioned in (2) plus other ones will undoubtedly cost enough money to further discourage people from making freezing arrangements. (I hope I'm not simply projecting here: I've just started working and have about \$200 to my name!)

I feel that your society is helping to combat the above difficulties. Rather than start a formal group in Detroit, however, I'd prefer to tell others about your society and, more importantly, about the freeze-wait-idea itself.

Very sincerely yours,
Peter Wolf

SUBSCRIPTION & MEMBERSHIP TO LES: The subscription to the LES newsletter is \$2 for 1965. Indicate if you wish to become a member. However, a student membership is available for \$1 and for those of limited means. (Freeze-cards are available whether you wish to become a member or not) LES is an incorporated, non-profit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the advancement and extension of human life especially through cryogenic and cryobiological means.

For further information write:
We invite your ideas.
We invite research findings.

Life Extension Society
2011 "N" Street N.W.
Washington, D.C., 20036

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FREEZE-

WAIT-

REANIMATE

Vol. 2, No. 1

January 1965

The Life Extension Society Newsletter
2011 "N" St. NW., Washington 36, D.C.

AN APPEAL TO DOCTORS AND SCIENTISTS:

WOULD YOU BE WILLING TO HELP PERFUSE AND FREEZE SOME OF OUR MEMBERS, OR ANYONE WHO WISHED TO BE FROZEN, IN THE EVENT DEATH IS INEVITABLE?

THE PRESENT SITUATION: About 56 million people die each year according to the U.N. Statistical Office. Out of the 3 billion now living, 30 LES members are attempting to arrange for perfusion, freezing, and cryogenic storage in the event of death. They believe that if their bodies are so preserved it may be possible for scientists in the future to reanimate them, repair them, institute aging-control, and send them on their merry way. The surgeon John Hunter toyed with the idea of freezing with reanimation at a later date, in 1766; but he didn't do anything about it. Now physiological and cryobiological research allows the optimist to see the possibilities of achieving what John Hunter glimpsed. The Life Extension Society, and others have enough faith in the future of science to do something. They are attempting to arrange procedures so anyone could be frozen at death if the cryogenic alternative were their desire.

THE PROBLEM: We have been relatively unsuccessful so far in finding skilled personnel willing to help perfuse and freeze. There are numerous professional people who are vitally interested in the idea, including a physicist, a biochemist, a Nobel Prize winner in biology, and medical scientists interested in the theory and research, but no doctors who are willing to help perfuse and freeze the person in need. Thus, we would like to locate doctors and scientists from anyplace on the globe who are willing to help with perfusion and freezing. If you would like to help, please write to us.

We especially would like to locate doctors who would initiate these new processes in hospitals. The doctor has the necessary basic training, and any well-equipped hospital has all the supplies necessary or can get them on short notice. As far as we know at the present time, the essentials would be DMSO, a heart-lung machine, and dry ice. Shortly thereafter liquid nitrogen would be needed. LES has available suggested procedures which have been obtained by researching the scientific and medical literature and by asking the opinions of authorities.

AN APPEAL TO DOCTORS AND SCIENTISTS continued.

A number of people interested in freeze-wait-reanimate have attempted to locate doctors who would say they would perfuse and freeze, but with no real success so far. Being discouraged with the possibilities of getting the doctors and hospitals to initiate freezing, they are going ahead with falcities of their own. These people recognize that the hospital is the preferred location because those processes must begin, preferably, at the moment of clinical death, if not before. But those who are setting up their own facilities despair at the slowness of doctors and medical institutions to pick up on the idea. That freeze-wait-reanimate is being forced out of the regular channels of the preservation of life is unfortunate.

The average doctor, apparently can not visualize the value of holding the person from further deterioration in a cryogenic environment until reanimation is perfected in the future. He thinks in terms of proving everything out in animal experimentation: freeze the hamsters and dogs for 10 years, revive them, and then experimentally prove that it will work for humans by holding them for 10 years, reviving them, and observing them for the remainder of their lives. This orthodox procedure might take 50 years, let us say, before the scientist can state: "Yes, we can now reanimate any reasonably well frozen body."

This procedure may be quite acceptable in many types of research, but we are not sure it is reasonable for freeze-wait-reanimate. The difference is, that over three billion people would die in that 50 year period. None would have even a chance of a future life simply because we didn't have the foresight to store them cryogenically. What seems obvious to us is that the body of the person could be stored until reanimation techniques, etc., were perfected, provided the body was reasonably well perfused first. The degree of perfection or imperfection of perfusion and freezing is by definition relative. To the extent that freezing is imperfect, within reasonable limits, the person's reanimation date would be put off until science was able to repair the damage.

For the orthodox it is very difficult, apparently, to consider anything but an A to B to C to D to E to F solution to a problem. They consider that if you can not now do "D" that is the end of the project, even if you know how to do "E", "F", and "G". What we would suggest is that occasionally, as in the preservation of life, you can put "D"(reanimation from the frozen condition) "on ice" for the time being, and return to its solution at a later date when science is more advanced. Because you cannot do "D" now, doesn't mean that you should not proceed with "E" and "F" (perfusion and freezing, let us say) right now. Especially this is true as the procedures of perfusion and freezing may save lives that would otherwise be lost.

In the first instance this plea is directed toward doctors in areas where LES members reside, and might be in need of assistance at any time. These areas are England, France, California, Florida, and the cities: Baltimore, Chicago, Detroit, and Washington.

WHEREVER YOU ARE, WHOEVER YOU ARE, CONSIDER THE IMMENSE RANGE OF SCIENTIFIC POSSIBILITIES FOR THE PRESERVATION AND EXTENSION OF HUMAN LIFE. PLEASE DON'T UNDERESTIMATE WHAT CAN BE DONE. WRITE TO US CONCERNING YOUR WILLINGNESS TO HELP.

Life Extension Society, 2011 "N" Street N.W., Washington 36, D.C.

REVIEW OF THE SECOND ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

Our second conference took place in Washington, D.C. on Saturday January 2nd, 1965, from 9:30 in the morning to 3:30 in the afternoon. Sixteen persons got to the conference out of twenty-one who were paid and registered.

The morning papers and presentations began with "Freeze-Wait-Reanimate, Progress and Problems, 1962 - 1965," by Ev Cooper, who surveyed briefly some of the immense number of small advances of the movement. Books, articles, and a newsletter have been published. Societies have been formed; membership has grown! Speeches, radio and TV interviews have been given -mostly by Bob Ettinger. Though no one has been frozen, the movement is gaining acceptance, and the preservation of the first person via cryogenic means is predicted for 1965.

Peter Kline presented a paper entitled: "On the Anticipated Psychological Response to the Prospect of Immortality," in which he asked us to consider if most people don't welcome death because of human nature and the nature of our present societies. If physical immortality can be democratically controlled in the future, preserving the freedom of the individual, life will be Heaven. If not it could easily degenerate into a Hell. The choice is up to us.

Wes Walton, in the morning, and Ernest Karlsen in the afternoon presented some novel ideas revolving around reconstructing the individual from the information in isolated preserved cells. This phase of the conference will be presented separately later.

Bob Ettinger began the afternoon discussions by presenting his plans for opening a commercial venture to prepare, freeze, and cryogenically store humans. If non-profit hospitals or medical schools are relied upon to physically initiate freezing, he feels we might have a long, long wait. Bob believes that it is crucially important to make these facilities available, and the fastest method of creating them is through the profit incentive.

Bill Albaugh next presented ideas on freeze-wait-reanimate and the law. In addition to discussing some of the rights of freezing mentioned in the previous newsletter, Bill suggested that a great number of complications would be avoided if the frozen one were considered dead for legal purposes. He also asked if courses might be established on accepted procedures in freezing and that those who passed these courses be licensed for perfusion-freezing work. Participants later asked in turn if everyone shouldn't have a working knowledge of how to perfuse and freeze just as one should know what to do for a heart attack.

Smaller get-togethers continued Saturday evening and Sunday discussing everything from Don Bridell's suggestion for developing emergency automatic foam freezing cocoons to the possibility of retaining one's identity though one might gain a new body and brain. The suggestion was to transplant one half of the brain at a time. When the new half became thoroughly you, the old half could be removed for the remaining replacement. Thus, the same person with an entirely new body and brain could continue indefinitely, theoretically, by this transplant split-brain replacement process.

If space permits some of the conference papers and ideas will be reprinted in future newsletters.

FREEZE-WAIT-REANIMATE NAME FOR OUR NEWSLETTER

As we have found "freeze-wait-reanimate" to naturally describe the movement of the same name, we decided to try using those words as the name of our newsletter. Freeze-Wait-Reanimate should convey the nature of our endeavors much more quickly than the former title. In Interlingua Freeze-Wait-Reanimate would be Congelar-Attender-Reanimar.

CURRENT MAGAZING ARTICLE ON FREEZE-WAIT-REANIMATE

February 1965 Pageant. "The Deep Freeze Plan for Eternal Life," by Jim Hoffman. Pages 22-28.

WHAT IS AVAILABLE? You may write to LES for the following:

Freeze-cards. To indicate your desire to be frozen in the event of death. Information on emergency medical signal devices also available.

Central file listing those persons who wish a record made of their desire to be frozen and reanimated.

Instructions for perfusion and freezing.

How to help locate a doctor for perfusion and freezing in your community.

How to set up a freeze-wait-reanimate group in your area. Freeze-Wait-Reanimate newsletter and LES membership. See below.

Emergency information and help. See below.

EMERGENCY INFORMATION AND HELP

If anyone is dying or close to death who wishes to be preserved cryogenically, information and help may be obtained by phoning LES or various individuals below:

LES Washington: 723-5397 Code 202, evenings, weekends, holidays.
Spartanburg, S.C.: 583-9041 Code 803.

Detroit area: LI 3-2619 Code 313 (Bob Ettinger).

Santa Barbara, California: 965-7393 Code 805.

Mt. Rainier, Maryland: AP 7-0246 Code 301.

WANTED:

Short articles, letters, ideas, suggestions, even humor on freeze-wait-reanimate.

Research results on cryobiological experiments.

New members and subscribers to our newsletter

Candidates for our Advisory Council

LES coordinators in South America, Asia, Australia, Africa, etc.

CONGRATULATIONS to Marie Phelps-Sweet, LES Western Coordinator, who volunteered a \$100 pledge to LES. LIFE MEMBERSHIP is hereby conferred.

SUBSCRIPTION to our newsletter is \$2 for 1965. Student membership is available for \$1 and for those of limited means. LES is an incorporated, nonprofit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the extension of human life especially through cryobiological means.



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

AN APPEAL TO HOSPITALS EVERYWHERE TO INFORM ANYONE IN DANGER OF DEATH OF CRYOBIOLOGICAL POSSIBILITIES FOR SUSPENDED ANIMATION.

CONFIDENCE IN THE FUTURE OF SCIENCE and in cryobiology is such that a number of investigators consider that if a person is properly perfused with cellular protective agents, at or near death, frozen, and cryogenically stored, it may be possible for that person to be repaired and reanimated in the future.

IF THE HYPOTHESIS is correct, we could freeze and store people now, saving their lives and opening the gate to the extension of life in the future. For those who wish to at least try for a life in the future, what could be more ridiculous than to submit to the grave or the furnace, when the life remaining could be held in cryobiological suspension?

THIS TYPE OF HYPOTHESIS may take ten to fifty years to confirm. Similarly it may take five to ten years to confirm the hypothesis that it is possible to land men on Mars. However, until we either gain or lose confidence in the viability of this freeze-wait-reanimate idea, we could store those who wish to be frozen. Otherwise it is certainly oblivion for the individual. No harm can be done in giving freezing a trial, and great benefits may accrue.

WE OFTEN MAINTAIN PATIENTS in hospitals at a low level of existence, such as in a coma. If we are willing to do this for the individual it is a short step to cryobiological suspension. At cryogenic temperatures life is held in complete dormancy.

WE CANNOT BE SO PRESUMPTUOUS as to say that freeze-wait-reanimate will not come to pass. We dare not underestimate the future. It is extremely unlikely that scientists will rest until they can reanimate any reasonably well-frozen body.

OUR OBLIGATION, it would appear, is to present the information of freeze-wait-reanimate possibilities to anyone in danger of death, letting them judge for themselves the merits of the idea.

MAY WE ASK YOU TO POST this in your hospital or institution? Discuss this with others, especially those in danger of death. Give it a fair hearing. Avoid those negative responses. Consider that there are more opportunities for extending life into the future than are dreamt of in our poor philosophies.

Instructions on perfusion, freezing, and storage, based on current research findings, are available from the Life Extension Society. We welcome requests. Prepare for the future now.

-nonprofit-

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-international-

IRON GATE MEETING DISCUSSES EMERGENCY COOLING AND FREEZING

In the past the LES Newsletter has published several short articles by different writers on suggested methods of perfusion and freezing under both hospital and emergency conditions. During this month's regular meeting at the Iron Gate Inn several obvious, yet startling, and even disconcerting suggestions on emergency freezing were discussed. No matter how disconcerting the thought, a person could be cooled and frozen in a refrigerator (or deep-freeze). Dry ice could be added to the refrigerator when it could be obtained. (CO₂ fire extinguishers also offer a supply of cold.)

The bathtub provides an emergency container of sorts for cooling initially with cold water and even DMSO may be added. Closed-chest cardiac massage is also possible. Further cooling and freezing may be obtained by withdrawing the water and adding dry ice, or various chemical mixtures, until a better container could be provided.

The proper layering of sheets, dry ice, blankets, and newspaper offers an additional emergency alternative alone or in conjunction with some of the above. In many cities dry ice could be obtained while the body is cooling by other means. Some LES members have DMSO on hand. It can be obtained for other members if they desired DMSO available for emergency use.

The next monthly meeting, with a continuing stress on whole-body, and whole-animal freezing, will be March 9th, 8pm, at the Iron Gate.

PROFESSOR E. WESLEY WALTON ELECTED CORRESPONDING SECRETARY

Not only has Wes Walton been elected Corresponding Secretary, but he has agreed to help co-edit our newsletter, and has accepted the task of Southeast Coordinator, besides translating letters for LES with the help of his very able wife Judie.

ALAN WORSLEY OF HULL, ENGLAND, SUGGESTS THE NAME "BRITTLES"

As it is possible at the extreme low temperatures that the frozen ones might be broken by improper handling or moving, the name "brittles" would be a reminder of their fragility. Closer to home, Mildred Cooper supplemented this possibly popular name "brittles" with the more technical "Homo Snapiens."

GENETIC RECONSTRUCTION AND SCIENTIFIC REINCARNATION: A CONTINUING REPORT ON THE JANUARY 2ND FREEZE-WAIT-REANIMATE CONFERENCE.

Mr. Walton reported that certain branches of archaeology concerned with the scientific examination of human relics have discovered therein minute anatomical features persisting, in exceptional circumstances, through thousands of years. He added that the findings of forensic medicine indicate that the bodies of human beings buried even in the worst circumstances may yet retain their physical structure in some detail for long periods of time.

It might eventually be possible, he thought, in view of this, for future scientists to recover enough evidence from a body to deduce the genetic constitution of its onetime owner and thus proceed to recreate the living person. If the genetic code is to be regarded as the basis of human identity the recreated person would be himself but, without memory of his past life, would be stripped of his

continued:

"environmental identity" and would thus be amnesic in a most absolute sense of the word. Mr. Walton emphasized that this was "skyblue thinking" and delivered much of his paper as imaginative speculation.

By coincidence Mr. Karlsen, who has had ten years' experience in the field of cybernetics, presented a topic touching expressly on the subject of scientific reincarnation. By the method he envisioned a new body (one might call it a "blank") would be cultivated from the genetic code furnished by a snippet of cells deposited along with a record of one's mental topography in a special bank. Bringing the two together properly would restore a human being from the most destructive accident.

Yet taking a cue from Ettinger's thought experiments, Karlsen asked how we should regard a person produced in duplicate, since the merest contemplation of the avenues considered above raises certain fundamental questions about the basis of human identity. He frankly admitted he was puzzled.

Ettinger wondered whether a scientifically reincarnated human being could be identified as the same person, and Walton felt that a person may have two essential identities, the genetic and the environmental, and that when these two are present together the person is present. Mr. Karlsen also raised other imaginative possibilities along the line of scientific reincarnation..

OTHER SOCIETIES AND ASSOCIATIONS FORMING AND GROWING

IRCA, the Immortality Research and Compilation Association, in the Los Angeles Area now has 45 members and is growing rapidly.

Juno, Inc. a commercial concern, had originally planned to begin work building a 4000 unit freezer facility in the Los Angeles area. They were to have broken ground on January 15th and worked around the clock until finished. But reports now indicate that financing problems at present have been insurmountable.

In New York, Ben Schloss, a scientist-businessman, and head of Nucleonics Corporation of America (196 DeGraw Street, Brooklyn), is forming the Society for Anabiosis. Schloss' stress is on an immediate crash program in cryobiological research and apparently not on freezing the dying at present. Classes of membership are based on contributions from \$5 which is the lowest class, to Benefactor which is "Any sum in excess of \$5000/ year." Their initial target is \$1,000,000.

REPORT ON OUR APPEAL TO DOCTORS

We were able to send out very few appeals, via the previous newsletter, because our last issue virtually disappeared to people writing in and asking for information. A doctor in California did respond, however, offering us an underground depot, near an airport, "built to withstand a nuclear blast," 24 acres, main building 7750 square feet, shop buildings, pump house, smaller buildings, underground elevators, underground rooms, three of them 50' X 70', septic tanks, sanitation, storm sewers, paving, floodlights, curbs, walks, parking area, originally built of the government, all for \$75,000.

This isn't the total extent of the doctor's interest in freeze-wait-reanimate. We have had a small amount of very strong interest, which cannot be reported in detail at present.

APPEAL TO DOCTORS

Our appeal to doctors remains: We are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are later faced with death.

EMERGENCY INFORMATION AND HELP

If anyone is dying or close to death who wishes to be preserved cryogenically, information and help may be obtained by phoning LES or various individuals below:

LES WASHINGTON: 723-5397 (202) evenings, weekends, holidays.
 Castleton, Vermont: (802) 273-2708
 Detroit area: (313) LI 3-2619
 Spartanburg, S.C.: (803) 583-9041
 Mt. Rainier, Md.: (301) AP 7-0246.
 Santa Barbara, Cal.: (805) 965-7393
 France, Rosieres-aux-Salines, Marc Collet.

WHAT IS AVAILABLE FROM LES?

"What is the Life Extension Society?" A short description of LES. Freeze-Cards. To indicate your desire to be frozen in the event of death. Information on emergency medical signal devices also available.

Central file listing those persons who wish a record made of their desire to be frozen and reanimated. Privacy is respected. We don't mean we give out names unless approved by the person. Instructions for perfusion and freezing.

How to help locate a doctor for perfusion and freezing in your community.

How to start a freeze-wait-reanimate group in your area.

Freeze-Wait-Reanimate Newsletter and LES membership. See below. Emergency information and help. See above.

WHAT IS WANTED?

Short articles, letters, ideas, suggestions, even humor on freeze-wait-reanimate.

Research results on cryobiological experiments.

Candidates for our Advisory Council.

New members, and subscribers to our newsletter.

LES Coordinators in areas not covered, especially South America, Africa, Asia, and Australia, etc.

People who will volunteer to write letters for LES.

LETTER TO THE EDITOR:

Dear Ev,.. Until that time when the practice of freezing gains both official and public acceptance, all organizations (especially profit) that seek to get involved will be extremely vulnerable. Remember the abuse heaped on Ignaz Semmelweis when he tried to enforce sanitary precautions in childbirth delivery practices? Well freezing is an infinitely more radical departure from the accepted status quo, and

Letter continued:

as such will be subject to much more formidable opposition. Therefore the first order of business will have to be the protection of the groups of individuals, (including the wolves--their teeth will sharpen with security) from the greater society at large. Eventually freezing will have to be under government control, (perhaps someday men will have the capacity to govern) because of the complexity of the process, (after freezing, the body retains its value as an identifiable individual entity).

Sincerely,

Saul Kent, Bronx, N.Y.

(Editor's note: Saul has an earlier letter, too long for this issue, yet extremely interesting that we will try to reprint in a later issue.)

SIBERIAN WORKER "FROZEN" FOR 10 HOURS

One of our subscribers in British Columbia sent in a news note that reports the revival after 10 hours of accidental freezing. He was revived by the use of warm baths, forcing oxygen into his lungs through a hole in his throat, and drugs to revive the heart.

A letter has been sent to the hospital asking further details.

MEMBERSHIP SCHEDULE

Student.....\$1 (or for those with an unfavorable rate of exchange, so to speak.)

Regular.....\$2 (The newsletter goes with all memberships.)

Contributing...\$5 or more.

Life.....\$100.

Our bank balance is much healthier than expected from such pleasantly surprising contributions, past and present of Bill Albaugh \$15, Don Briddell \$10, Jerry Gruman \$5, Art Quaife \$10, Russ Stanley \$25, and Marie Sweet a pledge of \$100.

SUBSCRIPTIONS:

If a subscription alone is desired to our Freeze-Wait-Reanimate newsletter it is \$2 for 1965. A student subscription is available for \$1, or as said, for those with an unfavorable rate of exchange.

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE will be held in Washington and is tentatively scheduled for January 1-2, 1966. Any one interested in freeze-wait-reanimate will be welcome. A call for papers will be made sometime this summer.

THE LIFE EXTENSION SOCIETY is an incorporated, nonprofit, international, scientific and service-oriented society dedicated to accurate scientific information, research, and the extension of human life especially through cryobiological means.

FOR FURTHER INFORMATION write to us. Communications and questions are welcomed.

Life Extension Society
2011 "N" Street N.W.
Washington, D.C., USA
20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

AN OPEN LETTER TO THE UNITED NATIONS

The most momentous events and discoveries of our time all have one element in common: they place too great a strain upon the human imagination. We lack the imaginative faculties to be able to envision Auschwitz, or the destruction of Dresden and Hiroshima, or exploratory flights into space,.. Man can no longer grasp his own accomplishments.

--Hochhuth, The Deputy--

A QUESTION of the utmost importance is whether death may be relatively indefinitely delayed, and human life eventually extended, via cryogenic -low temperature- means.

THE HYPOTHESIS is that if a person is perfused at or near death, and cryogenically stored, it may be possible in the distant future to reanimate, repair, and institute aging-control, allowing the person to continue life. Freezing is merely a stop-gap device to hold the molecular structure of the person in complete stasis until science has developed aging-control, etc. -It is true, it is an imposing task requiring unparalleled confidence in future scientific progress.

THE BASIC LOGIC is simple common sense. Freezing presents a better chance of a future life than the furnace or the grave. Successful reanimation cannot be guaranteed any more than we can guarantee that men will someday walk along the 'canals' of Mars. But we predict that both will come to pass provided we get to work making them come to pass.

SOCIALLY OUR IMAGINATIONS seem unable to grasp and to instigate action on what is already possible. Future generations may say: "How could those 20th century people have been so deficient in vision as to be unable to see that we could reanimate and repair any reasonably well-frozen human? They could be living now if they had only tried."

HOCHHUTH REMINDS US OF OUR OBLIGATION TOWARD LIFE. If there is some chance that death and oblivion may be avoided via freezing we have a duty to broadcast the idea, to inform any and every individual in danger of death of the possibilities that exist.

DON'T RATIONALIZE that it cannot be done for reasons of state, over-population, lack of facilities, lack of research, etc. It can be done now. We freeze objects everyday all over the globe. Naturally the best place is the hospital where perfusion and a small amount of freezing now takes place. Perfusion and freezing services can easily be expanded.

IT IS REQUESTED that freeze-wait-reanimate be discussed before the General Assembly and that it be instituted on an international, non-profit, scientific basis under the auspices of the UN, removed from business and national interests.

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APPEAL TO THE UNITED NATIONS

The immediately preceeding appeal is being sent to each UN member representative (Afghanistan to Zambia, as listed in the current UN "bluebook" #125) and to nations outside of the UN. It is requested that each representative also forward the enclosed communication to the Minister of Health of his country. If you, as representative to the UN can help aid freeze-wait-reanimate internationally, and your Minister of Health can begin freeze-wait procedures in your individual country it will be a great boon to mankind generally and individuals specifically.

PARTIAL FREEZING IS NOW BEING DONE IN HOSPITALS

Though it is not too well known the freezing of intact whole limbs of humans does take place in hospitals. There has been a gradual increase in the use of cold in hospitals. Innumerable micro-organisms, small animals, pieces and parts of humans and animals have been frozen, stored, thawed and used for research and treatment, not to mention the vast increase in low-temperature perfusion for radical surgery. Cryosurgery is being used to remove tumors, cataracts, tonsils, portions of the brain, and for gastric freezing.

During the last five or six years dry ice has been introduced to freeze and hold infected limbs. F.R.C. Johnstone of the Dept. of Surgery, Univ. of B.C., Vancouver, reports the method is extremely simple. The dry ice was obtained from a local ice cream supplier in a 25 pound block for 6¢ per pound. Enough dry ice was cut to partially fill five or six #12 polyethylene bags. These bags are then placed around the limb which has a loose stocking over it. The freezing limb was then wrapped in cotton, bandages and a blanket for insulation. The remainder of the dry ice, enough to last a week, was placed in the refrigerator.

Pain is immediately relieved. Evaporating carbon dioxide causes no ill effect. The dry ice around the limb need not be replaced for 36 to 48 hours.

This dry ice method is used on patients either needing amputations, but too ill to be operated upon, or for dying patients to control pain and nursing difficulties. Three weeks is the longest a limb has been frozen "but only because it has not been necessary" to hold it longer. The temperature is down to -78° C. Though the author reminds us that these gangrenous limbs are dead when frozen, the time may come when carefully perfused limbs may easily be reanimated, just as other tissue is frozen and reanimated.

The freeze-wait procedures above indicate that some freezing is taking place in some of the hospitals. It is quite simple, and can easily be expanded. From the LES standpoint the freezing should be total in the event death threatened, and perfusion of the body with cellular protective agents such as DMSO, glycerol, etc. first, is vital to improving the chances of reanimation. Perfusion can be quite complicated, but is not beyond the capabilities of any reasonably modern hospital and staff.

Further reading: 1. Johnstone, F.R.C. Dry Ice Refrigeration of Gangrenous Limbs. Canadian Journal of Surgery. 3:238, 1960.

2. Johnstone, F.R.C. The Use of Dry Ice in the Refrigeration of Gangrenous Extremities. The American Surgeon, 30:380, December 1964.

IRON GATE MEETING DISCUSSING WHOLE BODY FREEZING & LIMITED EUTHANASIA

Among the many topics discussed briefly at the March 9th LES meeting, two especially stood out: whole body freezing via dry ice, and the institution of limited euthanasia in Sweden. Sweden is one of the pioneers in a humanitarian approach to medicine and has recently approved of making it easier to die in instances of overwhelming hopelessness, expense, and pain. This has been sanctioned after years of debate and investigation.

Oddly enough in making it easier to die, Sweden is very likely making it easier to live in the future if the freeze-wait-reanimate hypothesis is at all valid. The optimum time to begin perfusion and cooling is probably not after the person has naturally passed clinical death but sometime before serious dysfunction occurs. Slight differences in the time perfusion is begun may be marginal and negligible in respect to future ability to repair, but it remains that optimum conditions should be striven for.

The suggestion was that the Swedish procedure might facilitate moving the perfusion and cooling to a period within the last few days or hours of life for reducing cell damage and increasing the possibility of reanimation. Just as with open-heart or other radical types of surgery that require profound hypothermia and a clinically dead patient for a bloodless operating field, the patient isn't allowed to naturally die before the operation is begun. Rather, the cooling is begun while the patient is still in a reasonably fair state of health, clinical death is induced for as long as 1 1/2 hours while the operation is performed, and then the patient is returned to life, hopefully in a better state of repair. A similar procedure is suggested for freezing. Perfusion and cooling would begin as indicated above. The person in this instance would be in a state of clinical death, suspended animation, but not biological death, in the frozen state for decades or a century, before the more radical aging repair, etc., and reanimation is possible.

A short note on "Limited Medical Euthanasia" is to be found in World Medical News, January 15, 1965, page 93.

(The next meeting of LES will be at the Iron Gate Inn, Washington, April 13th, 8pm.)

THE LIFE EXTENSION SOCIETY MEMBERSHIP IS ON THE INCREASE

Subscriptions to our newsletter and members now number over 90. The article by Jim Hoffman in the February Pageant magazine was a great boost. A small ad in the New Republic has brought in a surprisingly good response. If it is found in the future that the average weight of LES members is slightly above normal, it may result from the ad first running as "Freeze-Weight-Reanimate. Information..." Speeches at Pratt Institute in Brooklyn also had a salutary effect. There have been additional contributors this month: Wes Walton and Art Quaife again, and others who we must get an okay from before listing their names.

NEW YORK AREA MEETING

Those of you who might be interested in getting together with others interested in freeze-wait-reanimate, call Jim Sutton -TW 7-2206 after 5pm, or 848 2973 weekends. A meeting is tentatively scheduled for March 20th or 21st.

KUDOS TO MARIE PHELPS-SWEET, BOB ETTINGER, AND DON BRIDDELL.

Our sparkplug Western Coordinator, Marie Phelps-Sweet, has given her usual extra effort by getting on Salt Lake City and Los Angeles radio programs and telling people about LES and the freeze-wait-reanimate idea. Without doubt Marie did it in gentler terms than our outspoken plainness. Congratulations, Marie.

Bob Ettinger, the greatest distributor of the freeze-wait-reanimate idea has been extremely active as usual (note his letter below) in giving speeches and in writing an article for Esquire as well as attending to his regular teaching duties.

Our thanks go out to Don Briddell who arranged talks at Pratt Institute in Brooklyn, which carried the idea further and brought in LES members.

ARE WE SERIOUS ABOUT FREEZING?

One woman called recently asking if we were really serious. She took the newsletter as an elaborate collegiate joke until her mother took it seriously and wanted to will her body, when she died, to LES for medical research. When we assured her we were serious, she then asked why we had humor in the newsletter when dealing with such a serious subject. We answered that we hoped it allowed us to retain our sanity in an era of apathy and unconcern about death. Besides, our attempt can be looked at as outrageously presumptive of future scientific ability (though we think the faith in science justified) and it won't hurt us a bit to be laughed at occasionally, and hopefully to laugh at ourselves. In addition, over 50 individuals have returned their signed freeze-cards to us indicating they take it seriously enough to want to be frozen at or near death, or have indicated the same in their letters.

LETTERS TO THE EDITORS

Dear Ev,

There are those who are "misotropes," as I call them, and those who are "philotropes." The misotrope arranges his life according to what he hates and is mainly useful as a catalytic force in society. The misotrope at his best is a reformer who operates, as a negative force, on what he sees as the negative elements in his social milieu. The philotrope, on the other hand, is not occupied or interested in what he does not like, but ignores it to promote what he thinks is good. At his worst he is gullible.... I suppose Carrie Nation and Karl Marx are pretty good examples of the misotrope, while Martin Luther King comes to mind as a philotrope. I must say that I prefer the philotropes and would characterize myself as one and, in fact, the entire freeze-wait-reanimate attitude would seem to be philotropic. Some people will be suspicious of The Idea. They will fear that if they associate themselves with it they will be gulled with false dreams and misled. I have seen more than one who feared more for his money than he hoped for his life. One man was so squint-eyed that, when informed of the idea, he could only think (and say aloud), "Bet the liquid nitrogen people are behind this." Well, that's the humor for today. For these people who are so timid and suspicious, and who are afraid, possibly, of becoming objects of ridicule, I would leave this thought--that it is far better and righter to be a fool for love's sake than a wise man for one's own. This whole thing is predicated on a love of life, and on a love of mankind made manifest in the individual. Prof. E. Wesley Walton/ Spartanburg.

LETTERS TO THE EDITORS CONTINUED

Dear Mr. Cooper,

The immediacy of your reaction has certainly forcefully expressed your enthusiasm. I am incredulous at the various range of negative reactions I have encountered in regard to freezing--they range from complete disinterest to intense antipathy. Many people of highly demonstrable intelligence have become emotionally irrational when confronted with the possibility of relative immortality. It is obvious that the great majority of human beings are blindly conservative, and exist in a sleep of virtual unconsciousness. They have been so thoroughly indoctrinated with the concept of inescapable death due to aging, that their minds... refuse to accept any evidence to the contrary.

I am interested in the freezer movement simply because the process of living has so thoroughly infused my consciousness that I am unwilling to discontinue it. Relative immortality is a scientific inevitability, and I welcome the opportunity to bridge the gap through freezing. As far as your preoccupation with motivation is concerned, I find that you make a rather abrupt and cynical dialectical dichotomy between the purposes of profit and public service. Truth must certainly be compromised if one's sole ambition is to make money, however, stoic dedication is not necessarily the most efficient means of approaching a problem that concerns the masses. To get this movement off the ground a great many complex problems will have to be solved, and I do not believe that voluntary work alone will suffice. I will explain my situation later.

Unfortunately the main problem in the world today is not the perpetuation of the individual, but the survival of the species. The burden of man's ingenuity--the power of self-destruction--now threatens his very existence. The pressure may soon become unbearable, for the point of no return has been reached, and he must either transcend his limitations or perish in his madness.

I believe one approach to this problem is to divert man's attention from his internal difficulties into the mysterious unknown beyond. With this in mind I quote from the book entitled Profiles of the Future by Arthur C. Clarke. "The road to the stars has been discovered none too soon. Civilization cannot exist without new frontiers; it needs them both physically and spiritually. The physical need is obvious--new lands, new resources, new materials. The spiritual need is less apparent, but in the long run it is more important. We do not live by bread alone; we need adventure, variety, novelty, romance... To find anything comparable with our forthcoming ventures into space..., we must contemplate the moment, now irrevocably lost in the mists of time, when the ancestor of all of us came crawling out of the sea. For this is where life began, and where most of this planet's life remains to this day, trapped in a meaningless cycle of birth and death. Only the creatures who dared the hostile, alien land were able to develop intelligence; now that intelligence is about to face a still greater challenge... 'Existence on dry land,' the more conservative fish may have said to their amphibious relatives, a billion years ago, 'will bear no resemblance to piscatorial life. We will stay where we are.'

They did. they are still fish."

Another approach to the problem is the attempt to conquer man's most severe limitation--his mortality--for it is his knowledge of the inevitability of his death that most intensely affects his behavior.

-continued-

LETTERS TO THE EDITORS CONTINUED

In this respect the freezing movement is an important step forward. It is profoundly symptomatic of a new philosophical approach to the concept of living.

For the concept of freezing to gain public acceptance and to become more than an underground movement, the mindless, well insulated skulls of the establishment will have to be forcefully penetrated. I believe for this to happen there will have to be a major dramatic breakthrough in our knowledge of the process of aging, which would point the way directly towards, at least the prevention of old age, if not the actual cure. At the present time, however, we know little about this process, for the science of Gerontology is in its infancy. Therefore, I feel that the persuasion of influential scientists is of paramount importance, for scientific research must be greatly accelerated.

--Saul Kent, Bronx, New York

Dear Ev--

Let me briefly report to you and the LES members some of the events of recent weeks, without any attempt to be orderly, and even though some of this may be old news to some of you.

Last week in N.Y. Dr. Schloss outlined some of the aims and program of the Society for Anabiosis to a group including some people prominent in business and the professions. Besides Dr. Schloss and myself, the speakers included Dr. Richard Lillehei, the well known experimental surgeon and cryobiologist, and a Georgetown U. pathologist who is a former president of the Cryobiological Society. The latter two are mainly interested in accelerated research (there are said to be only a dozen men in the U.S. working full time in cryobiology), but they also apparently support, at least passively, the goal of indefinitely extended life. They do not endorse freezing now, but neither do they seem to be actively opposed to it.

Recently I had dinner with Dr. Arthur Rinfret of the Linde Corp., when he was in Detroit. He says his company cannot at this time take any public stand, but they can supply cold storage equipment, and in their research and development program will take account of any popular demand. He thinks the cost figures in my book for permanent storage were a little low, if the installation is to allow easy access to any desired body, one at a time.

I have been giving talks from time to time to various civic groups and fraternal groups in the Detroit area, and have others scheduled. These include Mensa (the high IQ society), Rotary, university groups, etc. Interest is mounting--all too slowly, but still mounting.

My book is now on sale in The Netherlands also. The May issue of Esquire (on sale in mid-April) will carry an article I did for them.

According to the latest word I have received, Juno, Inc. has gotten past its main preliminary hurdles, and if no unforeseen further difficulties turn up will soon be ready for physical operations.

Morticians in Michigan, Texas, and Pennsylvania are trying to clear the way for freezing procedures. The red tape of course is sticky, but sooner or later we hope to get it untangled.

Continued-

LETTERS TO THE EDITORS CONTINUED

How far I'll go in preparing physical facilities myself will depend on circumstances. It's always difficult to know how best to allocate one's time, energy and money. But the project will not be allowed to stall.

-- Bob Ettinger, Oak Park, Michigan

dear ev--

i agree: the les brochure is not as impressive as it might be. and to return to an old complaint, les offers all the services except the one that counts!

sincerely,

leonard gilley, denver, colorado

APPEAL TO DOCTORS

Our appeal to doctors remains: we are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are later faced with death.

WHAT IS AVAILABLE FROM LES?

A short description of LES: "What is the Life Extension Society?"
 Freeze-cards. -To indicate your desire to be frozen in the event of death. Information on emergency medical signal devices.
 Central file listing those persons who wish a record made of their desire to be frozen and reanimated. Privacy is respected. We won't give out names unless approved by the person.
 Instructions for perfusion and freezing.
 How to help locate a doctor for perfusion and freezing in your area.
Freeze-Wait-Reanimate newsletter and LES membership. See below.
 Emergency information and help. See below.

WHAT IS WANTED?

Short articles, letters, ideas, and even humor on freeze-wait-reanimate.
 Research results on cryobiological experiments.
 Candidates for our Advisory Council.
 New members, and subscribers to our newsletter.
 LES Coordinators in areas not covered, especially South America, Africa, Asia, and Australia, etc.
 People who will volunteer to write letters for LES.
 Your suggestions, and help.

MEMBERSHIP SCHEDULE

Student.....\$1 (Also for those with an unfavorable rate of exchange)
 Regular.....\$2 (The newsletter goes with all memberships.)
 Contributing \$5 or more.
 Life..... \$100.

EMERGENCY INFORMATION AND HELP. NEW COORDINATORS

If anyone is dying or close to death who wishes to be preserved cryogenically, information and help may be obtained by phoning LES or various individuals below:

LES WASHINGTON: (202) 723-5397 evenings, weekends, holidays.
Mt. Rainier, Md. (Washington area also) (301) AP 7-0246 days, wknds.
Santa Barbara, California. (805) 965-7393.
Waco, Texas. (817) PR 2-3802.
Spartanburg, South Carolina. (803) 583-9041.
New York. TW 7-2206. after 5pm weekdays.
Castleton, Vermont. (802) 273-2708.
France, Rosieres-aux-Salines, Marc Collet.

NEW LES COORDINATORS

We have several new LES Coordinators not listed before: Jim Sutton for the New York metropolitan area, and Mr. and Mrs. E.D. Ellis of Waco. We thank these people for so graciously extending themselves.

In a very small meeting in New York recently Jim Sutton was found to be an exceptionally engaging person, who good naturedly moves the discussion along toward action until one found oneself panting trying to keep up.

However, don't expect precision organization, and categorical answers available for every question from our Coordinators. The movement is obviously still in its formative stages, and everyone simply does the best possible.

SUBSCRIPTIONS

If a subscription alone is desired to our Freeze-Wait-Reanimate newsletter it is \$2 for the year. A student subscription is available for \$1, or as said, for those with an unfavorable rate of exchange.

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

This conference will be held in Washington and is tentatively scheduled for January 1-2, 1966. Anyone interested is welcome. A call for papers will be made sometime this summer.

THE LIFE EXTENSION SOCIETY is an incorporated, nonprofit, international, scientific and service-oriented society dedicated to accurate scientific information, research, and the extension of human life especially through cryogenic means.

FOR FURTHER INFORMATION write to us. Communications and questions are welcomed.

Life Extension Society
2011 "N" Street N.W.
Washington, D.C., USA
20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

RESEARCH INDICATES THAT IN FREEZING WHOLE ANIMALS AND EVENTUALLY MAN 50% DMSO MAY BE PREFERABLE.

Dr. Huggins of Massachusetts General Hospital reports in the current Federation Proceedings that high concentrations of DMSO and other ECA's may lead the way to successfully freezing and reanimating "whole animals and man."

No one has been so frozen and thawed thus far. Very few organs can be frozen and thawed with function unimpaired. There are a host of most difficult problems surrounding perfusing the cell protective agents into large tissue masses quickly, evenly, and in sufficient strength, not to mention uniform freezing.

Huggins has found that blood can tolerate as much as 50% and sometimes more, of cell protective agents which he calls ECA's. This blood has been successfully frozen, stored, thawed, and used. If whole organs and animals are to be successfully frozen and revived, higher concentrations of ECA's offer greater promise for some of the following reasons.

Protection is what is needed, and higher concentrations are more likely to penetrate distant cells. DMSO and glycerol can be washed out of cells more easily than originally expected. Cells can tolerate high concentrations surprisingly well. The greater concentrations reduce the importance of the freezing rate.

Huggins ends his article by saying that the principles he has uncovered may lead to practical systems that "may someday permit preservation of whole animals and human beings at cryogenic temperatures."

Huggins' report was first given, apparently, at the Rye, New York conference on cryobiology, and first printed in the March-April 1965 issue of Federation Proceedings, Part III. This supplement volume on cryobiology is a great advance. Not only does Dr. Huggins face the main problem -which is rare in these conservative journals- and offers suggestions, but one can sense the debate and progress continuing in the reports of other researchers.

Lady Audrey Smith, possibly the world's greatest authority on this subject -the one who has frozen hamsters deeper and longer than anyone- advocates, in another article, a return to the cell for the basic knowledge needed to solve the more formidable organ and body freezing problems.

FREEZE-CARDS AND RECENT RESEARCH. The implication for LES members or anyone opting for freezing would seem to be that the higher concentrations of DMSO in the perfusate, even 50%, would now be preferable. Obviously this is open to debate and we welcome comments.

THE LIFE EXTENSION SOCIETY is an incorporated, nonprofit, international, scientific and service-oriented society dedicated to accurate scientific information, research, and the extension of human life especially through cryogenic means.

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FREEZING HEARTS FOR STORAGE

W.R. Webb and A.M. Karow, Jr. of the Univ. of Texas S.W. Med. School report that the best method of freezing hearts as far as they know is to seed them with microscopic ice crystals between -5 C to -15 C and then cool rapidly in dry ice methanol slush (-79 C) or in liquid nitrogen. This has been done with dog and rat hearts.

If the heart is immersed directly in liquid nitrogen it will crack the length of the ventricles, because the quick frozen surface attempts to contain the slower internal expansion of freezing which it cannot do. To avoid this breaking of the heart, the heart is first perfused with a DMSO perfusate. The components of this perfusate are as follows: NaCl 9.200 gm, KCl 0.420 gm, CaCl 2H₂O 0.159 gm, NaHCO₃ 0.150 gm, glucose 1 gm, water 800 ml, and DMSO 200 ml. The temperature was reduced 3 C per minute to 5 C, and then the heart was suspended over dry ice slush to -5 C, and then placed in liquid nitrogen. The authors add "None of these hearts permeated with the seeded ice crystals suffered any gross physical damage."* This may have been restricted to the rat hearts.

The researchers also froze dog hearts by circulating nitrogen gas through the arteries after it had been cooled in dry ice alcohol slush to -79 C. This method helped preserve the blood vessels from damage.

The most favorable method of warming was by radio waves. Webb and Karow warn, as Smith did before them, of the danger of cooking the organs with improper wave lengths and too much power. Otherwise thawing by radio waves is relatively rapid.

*Webb, W.R. and A. Karow, Jr. Hypothermic Organ Preservation, JAMA 191:1012 March 22, 1965.

APRIL 13TH IRON GATE MEETING IN WASHINGTON DOCTORS RESPOND

We were reassured that the 13th has nothing to do with bad luck. The Iron Gate Inn meeting was well attended by reporters who will help send the freeze-wait-reanimate idea throughout the world. Best, two members reported their doctors have consented to freeze them in the event of their death. Our next meeting at the Iron Gate, 1734 "N" Street, upstairs, 8pm, will be the usual 2nd Tuesday of the month, May 11th.

RECOGNITION OF THOSE WHO HAVE CONTRIBUTED: An unusual number of people have contributed to LES, for which we are most thankful, and will try to recognize in greater detail in a later, less crowded issue. Some have contributed who are not even members and do not presently prefer the freezing option. We stand amazed and thankful.

DID YOU RECEIVE YOUR LAST NEWSLETTER? Members and subscribers who were such before March 13th should have received our last newsletter via a UN stamp and the UN Postoffice. If you didn't receive #10 let us know.

NEXT NEW YORK MEETING. The next meeting for this area is scheduled for Saturday May 15th. Call BO 8-3910 for later details on location. The New York group has contacted Salvador Dali, the great surrealist painter, who is reportedly greatly in favor of freeze-wait-reanimate.

PORTABLE FIFTY POUND HEART-LUNG PUMP DEVELOPED. IT CAN BE OPERATING WITHIN TEN MINUTES

A small pump to provide oxygen to the blood stream of an incapacitated person has been developed at Baylor University in Houston. Making this pump into a portable form that can easily and quickly hook into the circulatory system may save thousands of lives in the future. At present it has been used on only eight patients, four of whom have been saved. The four lost were attributed to improper diagnosis or delay in obtaining the machine.

Currently it has been used with patients who developed a blood clot in the vessels entering the lungs. Previously patients had been lost during the time it took to remove them to the operating room or in other preliminary operations. With the portable pump the person may be connected to the machine at bedside, in the home, or wherever the emergency occurs. Tubes connect the pump with a vein and an artery in the thigh.

The pump is primed with dextrose and water which is contained in a plastic bag mounted on a tubular frame above the pump. The pump can be assembled and connected to the person within ten minutes. Batteries allow it to operate independent of a fixed electrical source.

Though this pump is currently being used for restricted operations, it would appear that with improvements in pumping capacity, or merely through application of what is now available, it has a tremendous potential for extending life. The problem is to provide a quick hookup and substitute for the heart and lungs. This, Dr. Beall's and Dr. Cooley's machine appears to have done. Dextrose and water have eliminated matching blood which has further shortened operating time. (See: Medical World News, March 12, 1965. Page 30.)

The inventors of the above pump probably don't envision its use as an aid to freezing. However, this new development indicates obvious opportunities and possibilities for beginning perfusion, cooling, and freezing if resuscitation is impossible. If the person can be supported until an operation will clear his troubles, that would be preferred. If the machine can be used as an aid in any way toward immediately prolonging life it should be used. If the person is presently unresuscitable, then perfusion for cooling and freezing could be started with a minimum loss of time.

DELAYING THE PROCESS OF DEATH

In an article by the above title, Negovsky and Soboleva, in Discovery, December 1964, discuss recent advances in their laboratories in the Soviet Union. They have completely reanimated dogs from a state of clinical death lasting several hours. This was accomplished with dogs, by cooling to 20° C, withdrawing the blood, letting the animal lie clinically dead for two hours, and then reviving with warmed blood, artificial circulation, and an electrical shock.

Negovsky and others have done work with clinical death and then cooling: "Experiments made on animals in our laboratory give us hope. After 10 minutes of clinical death the apparently unviable organism of a dog was cooled to 30° - 33° (moderate hypothermia) and kept at this temperature for two days. The higher areas of the brain were later fully restored. We found that, in the period of restoration, cold promotes the reanimation of the brain even when it is badly injured."

LETTERS TO THE EDITORS

Dear Mr. Cooper,

The legal problems posed by Freeze-Wait-Reanimate, especially during the period before reanimation is possible, are quite interesting. Would freezing count as death for purposes of inheritance of an estate? Or would the estate be held in abeyance under a trust of some sort until either death or reanimation? Would a guardian ad litem need be appointed to see that the frozen one's rights were protected? Would a life estate terminate at freezing, only to come back into being upon reanimation thus divesting a subsequent fee holder? If one was frozen at 61, would Social Security begin four years later to help defray costs of being kept in the vault? Or would it begin four years after reanimation, that being perhaps 104 years after birth? And perhaps of most concern, would the frozen one be subject to income tax? If he had investments, the income would normally be taxable, if he were frozen would he be exempt? Will the campaign slogan of the 1980's be "NO TAXATION WITHOUT RESPIRATION"?

Sincerely yours,
Charles F. Tucker
New Haven, Connecticut.

Dear Ev,

On spreading names around, I think you are quite right to ask first. The present system is a good idea, having them check off what is in effect the extent of their interest and degree of involvement. If the Coordinators don't like it, tough. Time is not of the essence to LES in the larger sense. (If my guess is right that it will be a decade or two before the medical process is perfected.) Better play it straight arrow with members, as you now are. I think you're right both from an ethical and courtesy standpoint.

Sincerely,
Tom DeWitt
Tunkhannock, Pennsylvania

Dear Mr. Cooper,

Here is information which may perhaps interest certain family members of L.E.S. --I believe that Americans who have studied medicine in France (Faculte de Nancy for example) and obtained the French title of Docteur en Medicine, can then practice in the United States; it is sufficient for them to pass a board exam-- to qualify, but it is interesting because studies in France are practically free.

One remark: it seems that a box for containing a body ought not to be composed of soldered tin, because, it seems, this metal is pulverized at low temperatures.

Another remark (Newsletter of November): About this family belonging to a Biblical Association which is ultra-conservative and which refuses freezing; it is indeed sad but it is difficult to convince such people. It will perhaps not be impossible to convince the chief religious figures by means of some arguments such as these:--"Prolonging a life may mean saving a soul, in giving it its chance. Furthermore, what is a life but a life, even if very prolonged, beside the eternity of God? --Finally, no one knows where Paradise is found, nor

LETTERS TO THE EDITORS

even if it is a place in the heavens. It may be that it is found in Time, in the future, and at that time which we make at the moment we make it; if it is not found by trying to go there, with the benediction of God, for accomplishing His will and His mysterious designs." Don't they see, the timid and the pessimists, that God is again near to his creatures? This that is demonstrated by science, according to an exponential curve laid out of daily miracles, isn't it the very stamp of a supreme and transcendent intelligence?

I'am not particularly a mystic and the sentiments expressed above don't represent anything more than one of a thousand sides of an eternal truth. But, two years ago, when Mr. Louis Rey (the great French cryobiologist) held a conference at Nancy, he was entertained by some Catholic priests who had placed a room at his disposal and who, of them, seemed very receptive to the idea of traveling bodily toward the future by means of hibernation (even by freezing).

Someday, in order for us to help protect frozen people, we will have to improve all moral forces, whether they are lay or religious--those of us who want a world composed of conscientious individuals and not an anthill). The difficulty will not be insurmountable because there are good elements at the heart of religions: you see, even now, the efforts which the Church is making for changing and adapting itself.

Cordially yours,

Collet

Rosieres-aux-Salines, France.

Dear Ev,

Thanks very much for continuing to send me the LES newsletter. I find them most stimulating. I intend to write to you from time to time, but only when I think I have some useful ideas to place before you and your friends.

I'm glad that your last newsletter mentioned the novel ideas of Wes Walton and Ernest Karlson, revolving around reconstructing the individual from the information isolated in preserved cells. I shall be pleased to receive any further write-ups about this.

I am particularly interested in this, as apart from my favourite line of thought about there being a personality pattern, unique for each individual, I wrote my short story PEBBLES OF DREAD (Thrilling Wonder Stories 1940) around the theme of involution.

Recently, this was brought vividly back to me when I took my youngest son, aged 4, for a walk in a nearby park to collect acorns. We found some at the base of a rather old oak tree, and he asked me about the acorns. I told him that the very tree we were looking at was once an acorn. He then asked me would that tree turn into an acorn again. It's incredible that a child of four could ask such a question, a few months prior he asked me would I grow down to his size!

This takes me back to 1938 when I wrote PEBBLES OF DREAD. The germ of the idea came from Dr. Julian Huxley's essay on the Clavellina, a marine creature, an offshoot of the vertebrate stock specialised in the ability to involve and then re-involve itself. This in an incredible creature, which apparently grows to maturity, then suddenly, faced with an adverse environment (if I remember correctly) will proceed to

LETTERS TO THE EDITORS

ungrow and revert to a spore, later to begin all over again !

Apply this to human life and we would have an old man going down the growth scale back to the original fusion of the sperm-ovum speck from which he started. Freeze that, and you would be carried into the future as a deep frozen speck, easily stored, and quite certain of personality retention.

I think it must be accepted that the essential "me" was in the first moment of fusion with my mother's ovum. A frightening thought to think that if one of my million sperm brothers had beaten me to the ovum I would never have been !

I think there are profitable lines of research on involution, or alternatively, some minute personality centre might well exist in our brain, which could be preserved.

If man (as he ^{was} obviously) once a seed, and in that seed everything he became was inherent, then if he could be reduced back to that seed, hey presto ! - immortality (with complete clinical security, of course) is ensured. The only fly in the ointment of course, would be that whilst his awareness is preserved, the memory of one evolved life would be obliterated. But a history could be kept and presented to the personality on mature emergence.

This is a splendid day dream I know, but seriously, if what Huxley writes about the Clavellina is correct, then we've already got it in nature. I'll be desperate to hear from you about this idea.

The process of growing depends on cell division as you well know, one cell becomes two, and so on. The opposite would be two cells becoming one, and whatever chemical or protoplasmic force causes them to divide, should, on its removal, or reversal, cause cells to merge. It sounds very pretty I know, but perhaps this Clavellina creature has the ability. I suggest you read up about it before dismissing my idea as a science fiction monstrosity.

Another thought which comes out of your very fascinating newsletter is that if men everywhere were assured of a later life in the future, mankind would have a tremendous motive to improve his present conditions so that Heaven would be ready for his re-animation. This might well be the thing that mankind has been so desperately waiting for. At the moment mankind has no stake in the future- the fact that I'm going to die dissuades me from a serious attempt to aid in bringing about a better world. (Why should I worry, I won't be here !) Perhaps this is not quite true, but beyond altruistic desires, I do not possess a desperation to fight too hard for the future.

Believe me Ev, there are wonderful ideas coming out of your newsletters. Quite honestly, I think they are the most advanced documents on earth today, and I'm so glad the enthusiasm of you and your friends continues. I can almost detect giant strides forward for your movement just around the corner. ---

Whilst I consider that religious organisations are retarding our steps into a scientific paradise, very often, I toy with the idea of the resurrection of the human body as propounded in the Christian teaching, and I can see in your efforts a possible fulfilment of this seemingly strange idea. Can this be used to gain support from the historic enemies of reason ? After all, you are showing that resurrection of those who die is possible by man made efforts through science. ---

Sincerely,
Gerald Evans
Swansea, Great Britain

A FEW THEORETICAL IDEAS CONCERNING FREEZING AND REANIMATION AND SEVERAL PRACTICAL SUGGESTIONS. By Professor Gerald Feinberg

1. One important problem connected with the freeze-reanimate idea concerns the question of whether memory will persist in a body cooled to liquid air temperatures or below. I don't think anyone can answer this off hand, but obviously the answer is crucial to the success of the idea. If memory is basically a punch card system, as has been suggested, then the answer is probably affirmative. If however, the memories involve circulating electric or chemical currents in the brain cells, then the outlook isn't so good. Some fairly simple experiments should help to settle this. For instance, worms could be trained to run a maze, and the trained worms could be frozen, stored a while, and reanimated (I gather this has been done with worms.) After this the worms could be retested and one could see whether their maze-solving ability had lapsed.

If memory should turn out not to be persistent, then it will be necessary to learn methods for reading out memories from living brains and storing them electronically, to be read back into the body when reanimated. I expect this will not be impossible.

2. One question people are sure to raise concerns overpopulation. If every body is frozen and eventually reanimated won't that make the population explosion much worse? In this connection, I find the optimism of Ettinger's book not reassuring. No matter how ingenious the people in the future are, birth control will be necessary. If the population were to keep increasing at the present rate, then in some 8,000 years, the entire visible universe, out to a distance of 10 billion light years, would be packed solid with people.

I have done a calculation which indicates that freeze-reanimate does not really make the problem much more serious. I will not include the details, but the results are the following. Under present conditions, with a life expectancy of about 70 years, the average couple should not have more than about 2.5 children, if the population is not to increase exponentially with time. In a world in which everybody could live to a very great age (say 10,000 years) which might be obtained through freezing, the average couple could have 2 children. Obviously, the difference is not a very great one, and I think that if birth control can be instituted, it will not make much difference to the population problem that people live indefinitely.

3. It might eventually be worth considering the storage of frozen bodies in space, or on the dark side of Mercury. This would alleviate the problem of storage space that might otherwise sometime arise, and also provide a situation fairly insensitive to outside stimuli. The cost right now is prohibitive (about \$1000 a pound to put an object into earth orbit.) But NASA estimates that it might reach \$10 a pound which might compete with costs on earth. It would be necessary to provide some shielding from the sun.

Now some practical suggestions...

It would be very useful to have a file of doctors who were willing to help freeze people. Maybe this could be collected from individual members of LES who have contacted their own doctors.

LETTERS TO THE EDITORS

Dear Ev--

Another brief report:

My recent trip to Houston was most encouraging. I enjoyed the hospitality of some Texans prominent in business and politics, who are interested in pushing the program. I hope to be able to report in more detail soon. The aim is for early physical facilities.

Juno, Inc., despite past delays, is still very much alive.

The Society for Anabiosis now appears to be emphasizing research almost exclusively, since Dr. Schloss believes this will win the cooperation of the scientists. In any event, the research is certainly important, and his effort, in parallel with others, may be most useful.

Another recent welcome expression of support was from the Christian Memorial Foundation of Kansas City.

My date list now includes another "Long John" Nebel radio program (WNBC) on April 21, and another Mike Douglas TV program, to be taped in Cleveland April 16 and shown in most of their outlets two weeks later. Additional dates are also in prospect.

Several English and Australian newspapers have been giving considerable coverage to publication of the English edition of my book, and interviewing LES, IRCA, SFA, and Juno people as well as myself. The current (May) issue of Science & Mechanics magazine carries an article. The N.Y. Post of March 31 reported (Lyons) that Salvador Dali is enthusiastic about the project.

Best regards--

Bob Ettinger, Oak Park, Mich.

Editor's note: Bob also has an article in the May issue of Esquire.

APPEAL TO DOCTORS

Our appeal to doctors remains: we are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are later faced with death. Anyone knowing of such a willing doctor please contact us.

WHAT IS WANTED? (What is available will be listed another issue.)

Short articles, letters, ideas, even humor on freeze-wait-reanimate.

Research results on cryobiological experiments.

Candidates for our Advisory Council.

New members and subscribers to our newsletter.

LES Coordinators in areas not covered in North America, and cities, but especially in South America, Africa, Asia, and Australia, etc.

People who will volunteer to write letters for LES.

MEMBERSHIP SCHEDULE AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange)

Regular.....\$2 (The newsletter goes with all memberships.)

Contributing...\$5 or more. Life.....\$100.

If a subscription alone is desired it is \$2 for the year or \$1 for students.

EMERGENCY INFORMATION AND HELP. NEW COORDINATORS

If anyone is dying or close to death who wishes to be preserved via cryogenics (low temperatures), information and help may be obtained by phoning LES or some of the individuals below. See note below.

LES WASHINGTON: (202) 723-5397, evenings, weekends, holidays.
 Mt. Rainier, Md. (301) 277-0246, (Washington area also) days, wknds.
 Santa Barbara, Cal. (805) 965-7393
 Waco, Texas. (817) PR2-3802
 Detroit area (313) 543-2619 Bob Ettinger
 Spartanburg, S.C. (803) 583-9041
 New York City B08-3910 (temporary)(leave message).
 Castleton, Ver. (802) 273-2708
 Tunkhannock, Pa. (717) 836-5761 or 836-2691.
 France, Rosieres-aux-Salines, Marc Collet.

NEW COORDINATORS

Please don't expect precision organization and categorical answers available for every question you might ask of our coordinators. Several of the LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices, and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is obviously in its formative stage, and everyone simply does the best possible.

MISC: COURTESY TO OUR FRIENDLY CRITICS, PROTECTION OF PRIVACY, ANSWERING SERVICE, AND CONTRIBUTIONS.

Probably every movement has growing pains which need to be spoken of and policies that need to be stated. One problem has been some overly vehement and possibly abusive letters that have been sent out from an LES chapter. We should like to apologize for this, request that coordinators control the excesses of enthusiasm, and see that people who either criticize or dissent from LES ideas are treated with respect. The health of our movement is dependent on criticism and we certainly don't wish to inhibit it.

There has been no abuse of the following, but we should like to restate the importance of being very careful of people's privacy, never passing a name on without that person's consent, and obtaining and respecting the degree of involvement a person wishes. If a person wishes to just subscribe to our newsletter, or whatever, he or she is still very valuable to us. Etc.

Our metropolitan New York City LES Chapter brought to our attention their need for an answering service or someone who will take messages for LES in that area. If anyone might volunteer or help provide this service please contact the N.Y. Chapter or Washington. (Anyone in Washington who could take messages for LES would be appreciated also.)

The last reminder is that contributions should be made to, and sent to LES Washington for redistribution (as for example for a local answering service, etc.) and not to a local chapter.

FOR FURTHER INFORMATION write to us. welcomed.

Communications and questions are
 Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C., USA, 20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

WHEN THAT FIRST PERSON IS FROZEN AND THEREAFTER

Early this morning -the 20th- the radio reported that doctors were feverishly attempting to keep a dying woman alive until scientists -who were feverishly repairing a broken gasket- could get their new freezing "time capsule" to her hospital. By afternoon it was reported that the suspension plan had been called off because the woman's condition had improved and her pastor advised against the experiment.

If this was a near miss, the pressures are building up so eventually the first person will be frozen. Bob Ettinger has been on radio, TV, and in the magazines. At least one company has been getting wide press coverage. Willing doctors can eventually be found. Private enterprise will be right there with an insulated container.

The job of LES now, as well as when that first person is frozen, is to do what we can to make the process of perfusion, freezing, and storage increasingly safe, and increasingly inexpensive for individuals everywhere. May we urge the following:

1. That the perfusion and freezing take place in hospitals under expert direction and scientific control if at all possible. In emergencies rescue squads and the general public should be trained or given knowledge of emergency cooling and freezing.
2. That in the normal course of a person's life, perfusion and freezing be planned in advance as far as is practical and reasonable. Science and common sense indicate that the person should not be allowed to die naturally before the perfusion and cooling processes are begun. It would seem much better to begin these processes during the last weeks, days, or hours of life, not after death.

As a very crude example, in some types of open-heart operations the surgeon must have a bloodless field. For this the heart and lungs will not be in operation (one definition of death). The doctor doesn't allow the patient to die naturally before he begins to operate. In a technical way, according to the above definition of death, he arranges the patient's death under controlled conditions while he operates. The patient's chances of survival are probably thousands of times as great under such management. And so it is with freezing. Probably a person's death should be carefully arranged for maximum chance of reanimation. Though we don't know how reanimation will be achieved, it is common sense to suspend the person in the best condition possible. Though arranged death for cryogenic suspension won't be publicly "acceptable" everywhere on our planet, it will probably become acceptable when people realize the scientific and human need for minimizing deterioration.

3. That we work toward the scientifically safest type of storage. Presumably this would be international nonprofit scientific direction removed from business and national interests. That will take time for the UN has shown no interest in our appeals to them so far. For the present, then, we will have to work toward more realistic goals of distributing information of least-cost safest storage and encourage the formation of scientifically directed nonprofit storage on a lesser scale.

RESEARCH REPORT AND SOME IMPLICATIONSFREEZING THE TWO HALVES OF THE HUMAN TO BE

The two halves of the beginning human have successfully survived the freeze-wait-reanimate process. That is, both human semen, and now human ova, have been frozen, stored, and returned to vitality and fertility from the frozen condition. This is a long way from successfully freezing and reanimating the whole adult human being, but it is an interesting start and a portent of the future.

It has been widely known for some time that human sperm can be frozen, stored, thawed and used. Frozen sperm banks for humans exist right now, just as they do for frozen bull semen. The number of cattle that have come from semen stored in liquid nitrogen banks probably outnumber the humans, however, by tens of thousands to one.

Now, Dr. James Burks of the University of Chicago has successfully frozen, stored, thawed, and fertilized human ova, the other half of the beginning human being. The method is substantially the same as has been found agreeable with the ova of rabbits.

With humans a hysterectomy yields about eight to ten ova. These ova are processed and frozen in 35% glycerol over, and finally in, liquid nitrogen to -196°C . After storage at this temperature reanimation or thawing is simple. Burkes merely leaves the small vial with the ova on his desk at room temperature for 10 minutes. These previously frozen ova can be fertilized outside the body and cell cleavage, a sign of development, can be observed under the microscope. The intention is to develop this method so infertile women can be able to bear children and for animal husbandry.

Dr. Burks isn't the least bit complacent over his remarkable work. He has been reported as saying "even though eggs are actually in suspended state, as far as division is concerned, until just before ovulation, the fact that you can freeze sperm and ova nearly 200 degrees below 0°C and keep them normal is amazing."*

An interesting next step will be to see if the fertilized ova can be frozen, stored, thawed, transplanted, and continue to grow. If this is possible, the first genetically complete individual in the embryonic stage will have gone through the freeze-wait-reanimate process.

*Medical World News. Volume 6, No. 8, p. 35, March 5, 1965.

For further reading on this subject see A.U. Smith, Biological Effects of Freezing and Super-Cooling, Williams and Wilkins, Baltimore, 1961

AN APPEAL TO READERS AND RESEARCHERS

A number of doctors, professors, and readers have notified us of research and information relevant to freeze-wait-reanimate. We are most thankful for what we have received, and would like to urge that you keep up the good work and that other readers join in. We would be most interested in notes on original research in cryobiology and cryogenics, advances in hypothermia, freezing, thawing, and resuscitation. If you see items of interest in magazines, journals, papers -or anywhere- please send them or note of them to us. It is impossible for us to see everything. We rely on you.

IRCA AND LES JOIN FORCES AGAIN

Cooperation is still alive in the world. The Immortality Research and Compilation Association (IRCA) has graciously voted to join forces with LES. Tom Tierney and group were very effective organizers for this means an addition of over 50 members and subscribers, about six of whom had duplicate LES memberships. Tom continues as LES Coordinator for the Los Angeles area. Heartfelt thanks go out to all of you who were so willing to join forces. If you know of anyone we might have missed sending the newsletter to, please let us know.

INFORMATION AND HELP IN THE LOS ANGELES AREA

LOS ANGELES AREA (213) 340-1949

MARIE PHELPS-SWEET MAKES LES CONTINGENT BENEFICIARY OF HER LIFE INSURANCE

Marie Sweet, our Western Region Coordinator in Santa Barbara, and our gadfly to action, has pioneered an arrangement for the transfer of benefit payments to LES in the event of "auto-accident, or other fatal event." Marie and her husband both wish the "President of the Life Extension Society to have the use of benefit payments for agreed upon purposes of the Society he represents." The purpose, in plain words, is to get Marie properly frozen in the event of death. Marie is to be commended beyond words for such foresight, courage, initiative, and for her willingness to place her trust in LES. This prompts us to two "open-letter" requests immediately:

1. If anyone knows of a doctor in or near the Santa Barbara area who would be willing to help with perfusion and freezing in the event of need, would they please inform us of that.
2. If a doctor isn't available, or too far distant, etc., would any LES members, or good samaritans, anywhere in that general area volunteer to help in the event of an emergency?

POSSIBLE CONFLICT OF NAMES

There are a number of other organizations that have "life extension" in their names, such as "Life Extension Examiners" and "Life Extension Foundation." We do not know if there is a conflict sufficient that we should change our name or not. We are enquiring of the authorities on this but it will take some time. If any of our readers have comments we would be glad to hear any information on this problem.

MAY 11 WASHINGTON IRON GATE MEETING A SIZZLER

The temperature of the water must have been just right for the participants were spawning ideas thick and fast, and voting them through, in our usual informal discussional style. One, a resolution was passed asking the U.S. government to do what it could in freezing any non-survivors, so many of whom are being lost in current wars and other conflicts. Two, we agreed to continue our efforts in attempting to enlist the help of local hospitals, which will include newsletters, letters, and personal visits to these hospitals. Three, Ernest Karlsen volunteered to make himself available for technical help in freezing at any time. Fourth, emergency freezing facilities (insulated container, dry ice, DMSO, etc.) were instructed to be ordered for the Washington area.

SUBMERGED MICE, DOGS, AND FISH INDICATE NEW PERFUSION POSSIBILITIES FOR MAN

If you put the work of a Dutch-born scientist on submerged mice and dogs together with the work of several LES researchers on fish DMSO immersion tolerance studies, you have some interesting thoughts on improving perfusion for man. Let us try to explain in simpler terms.

First, Dr Kylstra from Leiden, has been thinking and working for 17 years on the possibility of using a person's lungs, for cleansing the blood, though they were full of water. As time and research wore on, he found that both mice and dogs could live entirely submerged, lungs full, in the proper type of solution under pressure. The mice lived as long as 18 hours submerged.

He also began to realize that his new advance in lung perfusion (back to the gills) had other possible uses. An astronaut could withstand high gravity conditions and landing shocks much better if he were able to breathe in a fluid environment. Divers could go deeper if they made like a fish.

Second, LES researchers faced with the problem of getting a protective agent into the cells prior to freezing have also experimented with complete immersion perfusion. Fish were the natural subjects. The protective agent used in these tolerance studies is called DMSO. A note of the results of these studies will be carried in the newsletter at a later date.

Dr Kylstra has shown that complete immersion and lung perfusion is possible. LES researchers have shown fish immersed can tolerate varying amounts of DMSO. The possibility exists that better perfusion for humans might be obtained by DMSO immersion perfusion, possibly under pressure as with the mice. Perfusion through the blood vessels would probably remain the basic type of perfusion with immersion as a supplement. Together these processes might reduce the time needed for perfusion, do a more thorough job, and cool the body more quickly.

Further reading:

1. Lancet. 2:149, 21 July 1962. 3. New Eng. J. Med. 272:198, Jan. 1965.
2. Lancet: 2:1170, 1 Dec. 1962. 4. New York Times. p.49, May 19, 1965.

LETTERS TO THE EDITORS:

Dear Ev, ...

LES must form an immortality unit. You must set up a monastic society containing a skilled doctor trained in the technique of freezing. Storage for the "brittles" must be provided. You will have to get money. Surely there must be a rich person somewhere in the U.S.A who would like to live, if not for ever, for some considerable time ! Alternatively, the community dedicated to having their individuals frozen at death must organize the means of getting the necessary wealth. I am writing this at white hot speed because I have a hunch about it. You must do this. Converting the world will take too long. Think of other movements (on other things) that have tried : and of course my argument about living as mortals.

If you form an immortality unit all self contained, its members would not be able to drift away, then others might follow as similar groups throughout the world. ...

The problem will be colossal. People would have to give up their jobs, their way of life and perhaps their responsibilities to families. But you cannot play with death ! Death is a dirty fighter. No quarter given, and certainly no second chance. We will be pitting our brains against a ruthless and unremitting enemy. ...

Gerald Evans
Swansea, Great Britain

LETTERS TO THE EDITORS

Dear Ev,

We must get organized.

This is the most humanitarian movement since Christianity. I mean man has always dreamed of immortality and the idea of a soul.

One thing about this idea of life extension is that now people will have to be more concerned about the future years and years, and generations and generations to come, and not from just an altruistic sense of goodness either. For from a practical standpoint they may very well be the future!!

This may be the hope for mankind which will spur us on to do our best to shape the future world so it will be a much better place to live in.

LES members will have to be concerned with world peace, population control, the dignity of the individual, economic growth and especially education which will nurture future scientists of which one or more will someday discover the method of solving the problem of reanimating the frozen.

Actually we have nothing to lose and everything to gain. And all it will be is like going into a dreamless sleep and awakening in a new era. It would of course befuddle us a little at first but I'm sure after convalescing it would be wonderful to learn what had happened the 100, 200 or even a 1000 years while we slept. A science fiction writer could make it a nightmare existence filled with horrors but it would be unlikely.

I'm sure for instance that if Columbus or Charlemagne could be here today that it wouldn't exactly be a nightmare. And scientists such as Galileo, Kepler, or Copernicus would really have a heyday.

I must say that I was very much influenced by Arthur C. Clarke's Profiles of the Future. Before reading that book I was confused as to what I wanted to do in life. There were so many things I would have wanted to do, from being a farmer to a lawyer. Yet I couldn't choose and I knew life to be so short to do all I wanted.

I didn't dare think of living over 100 years. Society had conditioned me against it. But after reading that book I just used simple logic to determine what I would do. I would do everything!! ...

So I indeed was delighted to hear about LES. Here was a chance now to increase my chances of realizing my dreams and ambitions of helping to improve both people and in turn our world and existence. Now we have a chance.

And if we fail, so what!

Yet I can't help but feeling as you do, certainly it will all happen. In what way, who is to say, but I certainly aim to throw in my 2 cents.

Man may yet win over the elements or at least be able to coexist with them.

Sincerely yours,

J. Zeletski Constable, N.Y.

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**  NEXT IRON GATE MEETING Tuesday June 8th, 8pm.  **
**  Iron Gate Inn, 1734 "N" Street N.W., Washington. **
**  Coffee and dessert and discussion and action.  **
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LETTERS TO THE EDITORS

Dear Ev--

A very short report:

Last week, in San Francisco and Los Angeles, besides having some 16 or 17 TV and radio dates, I met with several groups of prospective investors interested in preparing commercial (and in some cases nonprofit) cryogenic interment facilities. While these negotiations are always tedious and unpredictable, I am much encouraged. I also had the pleasure of meeting Tom Tierney and Richard Jones.

Among other straws in the wind: A mausoleum in Columbus, Ohio has offered use of its space, although no price has yet been set. At the annual meeting of Cosmodyne Corp., a Torrance, California cryogenic firm, its president referred to my book and told the stockholders they might make human storage equipment. Additional articles will be published by "The American Cemetery" and "The American Funeral Director."

Everyone interested in building facilities agrees that a substantial part of all funds received must be allocated for research. Surveys run by interested insurance companies indicate that cryogenic interment should very quickly become a multi-billion dollar segment of the economy.

Response to the Esquire article, as well as to newspaper, TV, and radio information has been considerable, and my answer to all inquiries includes the name and addresses of LES and its branches, as well as additional information.

Bob Ettinger
Oak Park, Michigan

* * *

Dear Ev,

I would like to know if there are any medical centers in the U.S. that would undertake the job of reanimating a perfectly frozen human body?...

I am seriously considering, that is if I can find the necessary medical facilities, lending my body to an experiment, one in which I would be frozen, left a week or so, and reanimated.

If the experiment did not work at this time, my body could simply be stored until the means to reanimate were discovered. ...

At my present age, 18, and physical health (excellent), I would have the best chance of reanimation of any age group.

Please do not take this letter in-jest, or think it the babblings of a demented mind, for I am in earnest, and would undergo this experiment immediately if I had a reasonable assurance of reanimation soon.

I would appreciate a response as soon as it is convenient, and I hope the report from any medical sources you may know of is a favorable one.

Larry Pierce
Richardson, Texas

* * *

APPEAL TO DOCTORS

Our appeal to doctors remains: we are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are later faced with death. Anyone knowing of such a willing doctor please contact us.

* * *

LIFE EXTENSION SOCIETY

	April 30	First Fiscal Year Sept. 30
<u>BALANCE SHEET</u>		
ASSETS	1965	1964
CASH	\$474.45	\$ 31.00
Total	<u>474.45</u>	<u>31.00</u>
LIABILITIES		
LES SURPLUS	474.45	31.00
Total	<u>474.45</u>	<u>31.00</u>
<u>STATEMENT OF INCOME</u>		
OPERATING INCOME		
Dues & Subscriptions	<u>347.25</u>	<u>64.11</u>
Less: Expenses:		
Stationery	79.23	8.35
Stamps	44.92	-
Misc. Supplies	3.25	-
Advertising	7.28	-
Restaurant (Annual Meet.)	25.66	20.76
Other	13.00	5.00
	<u>173.34</u>	<u>34.11</u>
Operating Inc. Net	<u>173.91</u>	<u>30.00</u>
OTHER INCOME		
Special Donations	<u>269.54</u>	<u>1.00</u>
Other Income -Net	<u>269.54</u>	<u>1.00</u>
NET INCOME	<u>443.45</u>	<u>31.00</u>

FURTHER READING IN BOOKS RELEVANT TO FREEZE-WAIT-REANIMATEBOOKS: BOTH SCIENTIFIC AND POPULAR

1. BIOLOGICAL EFFECTS OF FREEZING AND SUPER-COOLING. A.U. Smith, Williams and Wilkins, Baltimore, 1961. (A scientific classic on the effects of freezing on organisms from virus to men. Usually only found in large libraries and university libraries.)
2. THE PROSPECT OF IMMORTALITY. R.C.W. Ettinger, Doubleday, New York, 1964. (Has spread the idea of freezing humans further than any other work.)
3. CLINICAL HYPOTHERMIA. Emil Blair, McGraw-Hill, New York, 1964. (Primarily for the doctor. Considering the future, Dr. Blair finds it entirely conceivable "that safe techniques for super-cooling human beings may be devised so that they may remain viable for periods of months, years," and longer.)
4. HYPOTHERMIA AND ANABIOSIS. E.V. Maistrakh, "Hayka," Moscow, 1964. (Technical and in Russian.)
5. NEAR ZERO. D.K.C. MacDonald, Anchor (paperback), New York, 1961. (A wonderfully written book on low temperature physics for students and the general public. Excellent background material. Briefly mentions in passing the possibilities of freezing humans.)
6. PROFILES OF THE FUTURE. A.C. Clarke, Bantam (paperback), N.Y. 1963. (Superlative book on the future. Suggests that immortality may be achieved by about the year 2095.)
7. FOR EVER AND EVER. E.G. Sibley, Modern Publications, 1 High St., Bromley, Kent. (paperback) (A very general optimistic view of the future.) 1959.

DRAMA:

8. THE BEDBUG. Vladimir Mayakovsky, Meridian Books, M94, (paperback) 1960. New York. (Written in 1928 as a futuristic farce. Our 'hero' is frozen in 1928 and reanimated in 1978.)

IN BOOK OF SHORT STORIES:

9. "Professor Bern's Awakening," by V. Savchenko, In SOVIET SCIENCE FICTION, edited by Isaac Asimov, Collier Books AS279V (paperback), New York, 1962. (Professor Bern freezes himself into the future.)

SCIENCE FICTION:

10. HE OWNED THE WORLD. Charles Eric Maine, Avon (paperback) New York, 1960. (Eleven year reanimation period worth it if he was to have aging-control; i.e. be relatively immortal.)

MEDICAL HISTORY:

11. THE LIFE OF JOHN HUNTER, F.R.S. by D. Ottley, Haswell, Barrington, and Haswell, Philadelphia, 1839. (Quotes Hunter's speculations on the possibility of freeze-wait-reanimate.)
12. OBSERVATIONS ON CERTAIN PARTS OF THE ANIMAL OECONOMY. John Hunter, Haswell, Barrington, and Haswell, Philadelphia, 1841. (Describes his attempts to reanimate frozen fish, and other temperature studies.)

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenics (low temperatures), information, and help in some instances, may be obtained by phoning LES or some of the individuals below.

Please don't expect precision organization and categorical answers available for every question you might ask of our coordinators. A number of our LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices, and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is obviously in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES WASHINGTON.....(202)723-5397 (Evenings, some weekends, and holidays. Days call (301) 277-0246.)

Detroit area.....(313)543-2619 (Bob Ettinger)

France.....Contact Marc Collet; Rosieres-aux Salines.

Castleton, Vermont.....(802)273-2708

London, England.....BEC 3290

Manchester, England.....CEN 5601/2 (Brian Gilbert)

Mt. Rainier, Md.....(301)277-0246 (Washington area)

New York City.....BO 8-3910 (temporary, leave message)

Pittsburgh (Latrobe)....(412)539-9157

Santa Barbara, Calif....(805)965-7393

Spartanburg, S.C.....(803)583-9041

Tacoma, Washington.....(206)383-5495

Tunkhannock, Pa.....(717)836-5761

Waco, Texas.....(817)PR2-3802

MEMBERSHIP SCHEDULE AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange)

Regular.....\$2 (The newsletter goes with all memberships.)

Contributing...\$5 or more. Life.....\$100.

If subscription alone is desired, it is \$2 for the year or \$1 for students.

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

WASHINGTON, D.C. JANUARY 1, 1966.

Anyone, no matter where they might be from, interested in the freeze-wait-reanimate movement is welcome. The conference, replete with speeches, papers, luncheon, and discussion will be on Saturday. Additional discussion and visiting on Sunday as desired. Papers are welcomed on any subject relevant to the topic. Begin thinking and planning now.

FOR FURTHER INFORMATION

Write to us. Communications and questions are welcomed.

Life Extension Society

2011 "N" Street N.W.

Washington, D.C., USA, 20036

ATTEMPT AT FREEZING DYING OHIO WOMAN ABANDONED

Late Report, May 21st.

The woman who almost became the first person frozen for a possible reanimation in the future died yesterday. The attempt to freeze her was abandoned. The reports on why the freezing was given up vary considerably according to the newspaper, newscast, or long distance call. However, the following are apparently some of the obstacles that developed.

1. Though the husband was pro-freezing, some of the relatives and their minister were against it. The minister was reported to have been opposed because the operation was untested and the doctors could not assure him the experiment would succeed.

2. The physician would not aid in the experiment, according to the N.Y. Herald Tribune.

3. The hospital administration and trustees met in emergency session, according to reports, and refused to go along with certain procedures after death, according to the Philadelphia Inquirer and other press agencies.

4. Leonard Gold of Juno, Inc., as reported in the Washington Post, said his company's "capsule" or insulated container wasn't available. His company had been caught off guard, he said, and only a prototype was in existence which was still being tested.

5. The minister warned, according to the UPI and the Washington Post, that "the idea was new and laws had not been enacted to regulate the company involved."

6. The subject for freezing was unconscious and did not know anything about the plan according to most reports.

According to long distance calls reported in by LES members and LES Coordinators, the location was Dayton City Hospital. The hospital did not have DMSO, or perhaps not enough on hand. Accordingly Bob Ettinger was called for additional supplies which he keeps on hand.

A long distance call from Tom Tierney in Los Angeles informed us that first page headlines signaled the story in at least one of the papers in California.

Various prices have been quoted on the cost of the insulated air-tight container. Both telephone and newspaper reports indicate that Juno estimates the cost of their capsule from \$5000 to \$8000 dollars. Gold of Juno, issued a report saying "it must be emphasized our company is interested only in providing equipment for funeral directors and cemeteries. We are not dealing with the general public and are not performing any freezing procedures or attempts at resuscitation." Their capsule being air-tight presumably applies to an inner capsule with the refrigerant outside the capsule.

(For emergency freezing, if nothing else is available, the body may simply be wrapped in layers of sheeting, dry ice, cotton wadding for insulation, and blankets. A plywood box with two inches of polystyrene insulation is usually obtainable for \$50 or less.)

(Comments and letters to the editors are welcome on any aspect of this latest news. How would you answer the minister who objected because the idea was new and success couldn't be guaranteed? What if the hospital staff wouldn't cooperate? Could any person wrap the body in dry ice?)



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

AN OFFER TO FREEZE THE FIRST PERSON FREE

The Life Extension Society now has primitive facilities for emergency short term freezing and storing our friend the large homeotherm (man). LES offers to freeze free of charge the first person desirous and in need of cryogenic suspension.

A number of explanations, warnings, and qualifications need to be understood. The objective is to freeze a person, who though dying or dead, would like to try for a future life. The fundamental logic is that freezing offers some chance of a future reanimation, whereas the grave and the furnace offer none.

Obviously there is no guarantee. The first freezings will be very crude. The first persons frozen may have slight chance of reanimation. Nevertheless, they will have a much greater chance than the person going to the grave or the furnace. The first frozen ones will also help mankind pioneer the freeze-wait-reanimate hypothesis into physical operation.

Our facilities are quite primitive. They consist of a large insulated container 7' X 3' X 2' made of wood and polystyrene. The refrigerant is dry ice or liquid nitrogen. The perfusate is DMSO (dimethylsulfoxide). Our particular container cost \$43.33. The dry ice as a refrigerant is estimated at a dollar or so per week. Liquid nitrogen for longer term storage is recommended and costs more.

All we can offer is to help freeze the person who opts for the cryogenic route into the future. We do not claim our emergency proposal is the best. It should be done in the hospital under careful scientific control. As many of you know, a freezing was attempted in Ohio last month, but was stopped by family, minister, doctors, and hospital resistance. Thus, if the hospitals are not open as yet to this new attempt to save and preserve life LES stands ready to help even though our facilities are most humble. Is it not sensible to have some type of facilities open and available? If the individual dies and is not frozen he is surely lost beyond recall. If we really value individual life, is it not criminal negligence not to cryogenically suspend the dying person for a life that is conceivable in the future?

The Life Extension Society is completely nonprofit, international, scientific and service oriented. The address for writing for information is LES, 2011 "N" Street Nw., Washington, D.C. Phone numbers for information and help in various cities from Los Angeles to Washington to London are listed near the end of our Freeze-Wait-Reanimate newsletter.

-copyright 1965-

NEWS FROM NEW YORK: FOUR CRUCIAL QUESTIONS

At a meeting in New York on May 29th, the LES group discussed and made out a list of the questions which seem crucial for people who might wish to be frozen in the near future. They are as follows:

1. WHAT IS THE MOST EFFICIENT METHOD OF STORAGE AT PRESENT AND HOW MUCH IS IT LIKELY TO COST?
2. DO THERE EXIST ANY TYPE OF INSURANCE, ANNUITIES, TRUST FUNDS, ETC. WHICH WILL GUARANTEE PAYMENT OF A FIXED SUM INDEFINITELY, AND HOW MUCH WOULD THIS COST A PERSON?
3. WHAT LEGAL PROCEDURES EXIST OR ARE NEEDED TO ENSURE THAT ONES WISH TO BE FROZEN IS CARRIED OUT?
4. HOW LONG BEFORE OR AFTER CLINICAL DEATH DOES CORTICAL DEGENERATION BECOME "IRREVERSIBLE"?

These are continuing problems answers to which have been attempted. Time passes, however, the pressures to begin freezing rise, and need is felt for more concrete answers. Some of the old answers need changing.

For instance, there is increasing concern for brain deterioration before as well as after death. One doctor consulted considers "irreversible" degeneration to occur several days before clinical death with some particular diseases. That is, freezing would presumably be indicated for certain patients as much as several days before they would normally die. Otherwise the optimal time for freezing will vary according to the individual's condition. The task would be to find the time for freezing which maximized this life and minimized the amount of damage for which repair would be necessary for any future reanimation.

The meeting was arranged with the help of Gerald Feinberg, Professor of Physics at Columbia, and a member of our LES Advisory Council. Many thanks go out to him for his concern and effort. A report will be made later on their findings. (May we also, at this time, ask our readers to report any answers they may have to these questions. It would be most helpful if you would take one of the above questions and send us your views and information.)

NEW NEW YORK LES COORDINATOR

Jim Sutton, our former LES Coordinator in New York is reported to have resigned, and Michael Hart, a lawyer, has been appointed with the support of the group in New York, as LES Coordinator for the New York City area. Our thanks go to Jim and his assistants: Eric Costello and Saul Kent for the great services they performed in helping LES get a start in New York, for the personal contacts, the letters written, and the radio broadcasts.

THE SECOND ANNUAL MEETING OF THE SOCIETY FOR CRYOBIOLOGY. AUGUST 2-4.

It will be held at the Park Motor Inn in Madison Wisconsin. It costs \$5 for members, \$10 for non-members, and \$2 for students (registration fee). Two symposia will be held: one on Protective Additives, the other on Cooling Rates. Some of our LES members are members of the Society for Cryobiology. If they, or anyone attending the conference, will volunteer to send us a report of the meeting it will be greatly appreciated.

NEWS FROM FRANCE

Marc Collet, our LES Coordinator in France, has been most active investigating freezing costs for the more expensive liquid nitrogen freezing, and being interviewed by the French scientific journal Science et Vie. The following are translations of Marc Collet's words as published by Jacques Ohanessian in Science et Vie.

"I am sure that tomorrow man will be capable of resuscitating the people that will have been properly frozen. Of course, the first experiments will be doomed. The way is a long one, but why not start now? I am trying for this reason to assemble around me all the good will possible to bring about an organization for freezing on a high scale. I have contacted several French enterprises of the cold industry. The financial problems are almost insoluble. To freeze one person would cost about 30 or 40,000 francs, plus 3 to 4,000 francs per year for the upkeep. But if the practice became widespread the prices would decrease considerably."

"There is no doubt hope. No one denies it. Therefore why should we let such hope escape? What is the risk? ...

"As for myself, if by carelessness I did not have a member of my family frozen upon death -for which of course I do not wish- I would have the feeling that I am committing murder. Some of your readers will probably believe I am crazy. I believe I am reasoning logically, on valid scientific hypotheses. Because the scientific bases are real."

NEWS FROM LONDON AND ABOUT E.G. SIBLEY'S BOOK FOR EVER AND EVER.

Our LES Coordinator in London, England is the author E.G. Sibley. Not only has he very graciously offered to give LES a hand in its formative stage in England, but he has written an entrancing paperback book entitled For Ever And Ever. (Modern Publications, 1 High Street, Bromley, Kent, Copyright 1959.) As far as we are aware his book is the first extended discussion -115 pages- of the thesis that science will bring about immortality for man.

"Immortality is just around the corner, and I expect we shall slide into this also, without much excitement or wonder."

When Sibley wrote his book, about nine years ago (and in Charles Darwin's old house at Downe, in Kent) he wasn't thinking of freezing as a stopgap mechanism to get the person into the future safely. He was thinking more of the evolutionary progress of science whereby biology and medicine gradually developed techniques of slowing and forestalling old age. By 1980 he envisioned "seven year periodic treatment begun on a voluntary basis for rejuvenation overhauls. Some people now living to 125 but growing and looking aged as at present." By 1990 he saw "Ever-increasing new discoveries for halting decay of human body--skin, heart, liver, kidneys and most glands renovated by injection or replaced artificially or with organs from other animals." By the year 2050 Sibley could see "both sexes now keeping youthful appearance and youthful mental and bodily vigour to age of 75. Expectation of life now 300."

Sibley's forte is optimism. "That is--to say that, all-in-all, I think the World I am forecasting will be nicer and happier one to live in with more humanity, gaiety and dignity." If man's destiny is self-fulfilling, it sure is great to have chaps like E.G. Sibley around.

TO LES MEMBERS: REPORT ON THE INCIDENT OF MAY 19-20.

Two or three weeks ago, in response to my Esquire article, a man whose wife was fatally ill asked me for information. Among other things, I told him that Juno, Inc., in Springfield, Ohio, in the area where he lived, was working on cryogenic interment equipment, and that a mausoleum in Columbus, Ohio had offered some of its space. Not hearing from him again, I pursued the matter no further.

On May 19, his wife again critically ill, he asked the Juno people and myself for help. A physician and a funeral director willing to cooperate were available. (The physician was on the hospital staff, but the patient's own physician would have nothing to do with it. The funeral director was Mr. Kenneth W. Coffman of Jackson, Lytle & Coffman, 560 E. High St., Springfield, Ohio.) I spoke with the physician and Mr. Coffman on the phone, and they agreed to follow the procedures I suggested. Mr. Leonard Gold, of Juno, arranged to have a team of four firemen, trained in cardiac massage, posted on the hospital floor with a respirator. A representative of Liquid Carbonic, who had been at the Juno plant on business, called his home office, and a large supply of liquid nitrogen was dispatched on an emergency basis, at no charge. The Juno people hastily reassembled their storage unit, which had been torn down for modifications. My brother and I set out for Springfield by car, no planes being available, bringing DMSO. The family's pastor, reportedly, had meanwhile been in touch, and had expressed approval.

We arrived in Springfield about 3:00 A.M. The patient was still alive. However, the hospital board of trustees had met about midnight, and decided, in view of their lack of information and advance notice, not to allow use of hospital facilities. This in itself would not have been decisive, hospital facilities not being essential. However, a certain relative or relatives put pressure on the husband to reverse his decision, and he did so. I spoke with the family at the hospital, as did Mr. Gold, but no "hard sell" was attempted, of course, and the family abandoned the project. Later, the hospital director issued a statement that the family, in consultation with their pastor, had withdrawn. That afternoon the patient died. (Apparently the patient herself never knew what was going on, or even that she was dying.)

At any rate, the Springfield, Ohio area remains a good place to die, with a storage unit, a mausoleum, and a funeral director available.

I suggest that letters of appreciation be sent to Mr. Coffman, who stood staunchly by in the face of criticism. Letters might also be sent to the Springfield Sun and the Springfield Daily News, which have given good and unbiased coverage.

Bob Ettinger
Oak Park, Michigan

LES DMSO TOLERANCE STUDIES AND
SUGGESTIONS FOR FURTHER RESEARCH

LES members, those especially with a scientific background, can do much to aid our program in the way of research. The equipment, although much of it must be improvised, can be simple and inexpensive. I have frozen whole fish and frog organs and studied the effects of dimethylsulfoxide (a protective agent used currently in preserving tissues against freezing damage) on these, both in the frozen and unfrozen states. Fish can live for at least a week in DMSO-water with concentrations of the DMSO being as high as 5%. The DMSO can be seen macroscopically in these fish as black specks. Microscopically the specks are

blotches with tiny granules apparently migrating towards them. These spots can be seen within the nucleus and cytoplasm of the cells and may indicate that DMSO has a high affinity for penetrating epithelial tissues and the least affinity for skeletal muscles. Animal tolerance for injections of DMSO are surprisingly good. When enough DMSO was injected into a frog's lymph sacs so as to constitute 50% of the blood volume, the frog was vigorous enough four hours later (at the time of the freezing) to escape and be hard to recatch. Fish will fall over on their sides in a 50% concentration and will die shortly but higher animals, at least frogs, seem to be considerably more tolerant of DMSO's slight alkaline toxicity.

I would also conclude that the ideal perfusate for whole body freezing will ultimately be a mixture of, perhaps, DMSO, heparin to avoid clotting, either whole blood, serum or Ringer's solution for the liquid medium, and another water-binding agent like DMSO or glycerol but more suitable for skeletal muscle.

Suggestions for further research: The physicists in our group should be working on improved equipment which could be used in LES research. Anything which could be devised to contain liquid nitrogen, appropriate for freezing or storing small animals, would be extremely helpful for our research. Also, ingenious microwave devices could be made that would be portable. Temperatures should be calculated for reheating different-sized animals by these machines.

For biologists, medical people and pharmacologists, more extensive exploration of the effect of DMSO on living tissues is needed, both in frozen and unfrozen tissues. For example, with what does DMSO combine to make these black granules? How does the body throw off DMSO? How well do different animals tolerate it and why do some do it better than others? Can excessive accumulations of these granules injure the organism or is it best to use high concentrations of DMSO which would have better penetrating power? How would varying concentrations affect the blood's pH? What is the extent of protection DMSO affords to muscular tissues? Just because it cannot be seen it should not be assumed that it is absolutely absent. Many more questions have to be answered in this new field and we can help our own cause by coming to grips with some of these problems instead of waiting for someone else to do it.

Two things I would like very much to see established for LES members: Equipment designed by members, but not necessarily so, could be made available on a borrowing basis (time arrangements made in advance, such as in libraries) with members being charged only with responsibility against breakage. This equipment could also include inexpensive equipment such as low-temperature thermometers. This, I believe, would greatly aid and encourage home research. We also need articles and excerpts from technical and non-technical journals for our files, to be made available to LES researchers.

ON PSYCHOLOGICAL TIME AND SHOUTING THEM DOWN

Thoughts and Problems of an LES Member in the Service. From two letters.

By Thaddeus

Here is something we should consider if one day man will be able to live indefinitely. That is the time element. I mean as one grows older time seems to speed by more rapidly. Remember as a child a second was something and a minute was pretty long while an hour was really long. A day was a whole new world while a week an eternity. But with age time seems to speed by. On questioning old timers in their 80's and 90's they affirm that it continues to speed up in advanced age. Now how much of this is psychological and how much physiological I'm not so sure. The latter could be altered such as by speeding up the metabolism but not the former without altering one's memory.

Perhaps it would be more desirable in the future to lengthen time for those so much more aged than those that live today. Perhaps they could migrate to a new world after it is made habitable through future scientific and technological advances. It could be in our own solar system or in a completely new one. By that I mean isn't the year of some of our planets equal to several hundred of our years?

Now with a day there equal to about our month-you can see one could have more time in a day or year to get things done. Just think, a year several hundred times as long as our year. One could catch up on some reading, learn to play chess, write a few books, do a bit of investigating work or scientific research and still have plenty of time left over for recreation. I'd say if a man could spend about 8-hrs per day for about 1,000 years playing and studying chess he could eventually play a fair game. It would be paradise for a few thousand years. After that, who knows? Perhaps one could travel which by that time would mean thousands of light years, etc...

Sick bay seemed confused when I showed them my freeze cards. However, they said they entered it in my health record.

When I casually sneak in the subject of freezing and reanimation to my friends here they at first think it is weird or hilarious. Then after a brief rundown of cryogenics, freezing of eyeballs and hearts, experiments done with dogs which were clinically dead, they become offended and hurt and scream about God, etc.

Sometimes I like to argue and I just ask, "Why blame God?" etc. Other times I just shout them down. I enjoy the different reactions nevertheless.

About the planet. I meant that even though we may someday prevent biological aging we wouldn't prevent psychological aging. We could, but there would go years of learning and experience down the drain. And if we didn't, the older one got the faster Earth's days and years would seem psychologically. Now on a planet with longer days and years it would help eliminate the rushing effect. I mean a person who has lived a thousand years and has thousands of Earth years left could enjoy one long year (100 Earth years) leisurely rather than 100 swiftly moving Earth years. If one were 1000 years old a year would seem short and zip by for him like a week or less goes for us. This is psychologically of course. He would be doing more of course but time would seem to be moving much faster than for a 100 year old just as time for a hundred year old seems to move much faster than for a 10 year old.

APPEAL TO DOCTORS

Our appeal to doctors remains: we are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are later faced with death. Anyone knowing of such a willing doctor please contact us.

IRON GATE MEETING, JUNE 8TH, AND THE "BRITTLE BOX"

The problem is to get freeze-wait-reanimate into physical operation and to explore minimum cost facilities. Toward these ends a report was made of a recently constructed wood and polystyrene insulated container. The costs were \$15.01 for lumber, 20¢ for nails, \$24.79 for polystyrene, and \$3.33 for glue. The insulation at present is 2" thick on bottom, walls, and lid, with enough insulation remaining to double that thickness on the bottom. The thickness of the insulation may be increased to 4" on the other five walls depending on tests.

NEXT IRON GATE MEETING: Tuesday July 13th, 8pm, Iron Gate Inn, 1734 "N" Street N.W., Washington, D.C.

MEMBERSHIP: Membership and subscriptions now number over 200.

FREEZE-WAIT-REANIMATE NEWSLETTER: The May newsletter was mimeographed on May 21st and into the mail at the main postoffice the same day. It was mailed to 369 persons and institutions on the first mailing. Five hundred were printed.

LES CORRESPONDENCE: 141 letters came into the Washington LES during May, and 186 letters were sent out during that same period.

THE SPEAKING BUG BITES LES MEMBERS: Just as freeze-cards and reading lists are available from LES, so are eager speakers. Colleges, universities, and other organizations who would enjoy a speaker on the freeze-wait-reanimate theory and movement are urged to call upon LES. Wes Walton, Bob Ettinger, Larry Jensen, Tom DeWitt, and Ev Cooper all have given speeches or lectures on the freezing suggestion and are enthusiastic to receive further requests.

FURTHER INFORMATION ON THE ATTEMPTED FREEZING IN SPRINGFIELD OHIO

The news coverage of the attempt to freeze the dying woman varied from detailed and lengthy accounts in The Sun and the Springfield Daily News (May 21, 25, 26), to three and one half inch headlines in the Citizen-News, Los Angeles, to short notice in the New York Times.

The woman concerned, who was later buried in the manner of tradition, was Mrs. Wilma Jean McLaughlin of 403 East Madison Avenue, Springfield, Ohio. Her death was the result of heart and circulatory defects. Her husband, who did his best to try to have her frozen, is James T. McLaughlin, a welder for International Harvester Co.

Theological opinion ranged from that of "disgust" and "it's so much foolishness" to "nothing wrong with it."

Legal opinion was both scarce and optimistic by comparison. Charles Carter, Acting City Law Director for Springfield, offered that "It can be done within the framework of existing laws anywhere. These laws may be changed in the future, but I know nothing of that at present."

"The obvious practical consideration involves the cooperation of the people who figure in the situation."

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below.

Please do not expect precision organization or categorical answers available for every question you might ask. A number of our LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices, and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is obviously in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES WASHINGTON.....	(202)723-5397	Evenings, some weekends and holidays. Ev Cooper. Days call (301)277-0246, Bill Albaugh.
Castleton, Vermont.....	(802)273-2708	Prof. L.N. Jensen
Detroit area	(313)543-2619	Bob Ettinger
France	Contact Marc Collet,	Rosieres-Aux-Salines.
London, England.....	BEC 3290	E.G. Sibley
Los Angeles, Calif.....	(213)340-1949	Tom Tierney
Manchester, England....	CEN 5601/2	Brian Gilbert
Mt. Rainier, Md.....	(301)277-0246	Bill Albaugh
New York City	CA-6 6636	Michael Hart
Pittsburg (Latrobe)....	(412)539-9157	
Santa Barbara, Cal.....	(805)965-7393	Marie Phelps-Sweet
Spartanburg, S.C.....	(803)583-9041	Prof. Wes Walton
Tacoma, Washington.....	(206)383-5455	Franklyn McDaniel
Tunkhannock, Pa.....	(717)836-5761	Thomas DeWitt
Waco, Texas.....	(817)PR2-3802	Mr. or Mrs. E.D. Ellis.

MEMBERSHIP SCHEDULE AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange)
 Regular.....\$2 (The newsletter goes with all memberships.)
 Contributing...\$5 or more. Life.....\$100.
 If subscription alone is desired, it is \$2 for the year or \$1 for students.)

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

WASHINGTON, D.C.

JANUARY 1, 1966.

Anyone, no matter where they might be from, interested in the freeze-wait-reanimate movement is welcome. The conference, replete with speeches, papers, luncheon, and discussion will be on Saturday. Additional discussion and visiting on Sunday as desired. Papers are welcomed on any subject relevant to the topic. Begin thinking and planning now.

FOR FURTHER INFORMATION. Write to us. Communications and questions are welcomed.

Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C., USA, 20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

A REPORT ON OUR OFFER TO FREEZE THE FIRST PERSON FREE AND A CONTINUING APPEAL

It is a short report. No one has accepted thus far. Such apathy may be understandable to those outside the freezing movement, but unfathomable to some of those within. If we analyze the situation a moment, however, we will see the need for patience, for renewed efforts and a continuing offer, and for wider distribution of our appeal for certainly few institutions and individuals know of this possible alternative to oblivion and "the dark menace of a narrow grave."

Our growing membership and freeze-card file definitely establish that some individuals are planning to be frozen. For our present efforts to get freeze-wait-reanimate into physical operation these individuals are disconcertingly healthy. Our more likely candidates for freezing are in hospitals, nursing homes, ambulances, and maybe even in the morgue. Therefore, let us make a continuing and extended offer to freeze the first person free.

The Life Extension Society now has primitive facilities for emergency freezing and storage. LES offers to freeze free of charge the first person desirous and in need of cryogenic suspension. There are no guarantees of a future reanimation. More likely, especially in the instance where the person is already dead for sometime before the freezing is begun, all that can be hoped for is a contribution to scientific research and an aid to lives that follow.

Ideally the preparation of the person by perfusion of cell protectives agents and the freezing should be done in the hospital under strict scientific control and prepared for well ahead of death. However, from the resistance to the attempted freezing in Ohio two months ago it seems as if 'society' in that one instance was not ready for such a 'large' step. By extending our offer perhaps we can make those intermediate steps toward the ideal smaller and easier to accept. Making the freezing free makes one step easier. If freezing is too futuristic for some hospitals perhaps they, or anyone, could let LES have a body (apologies for our bluntness) for freezing experiments.

With this extended offer the way is still open for the preferred hospital freezing. If this is as yet unacceptable for any of a number of resistances the actual freezing can be carried out by LES on a body in which there is little or no chance of any future reanimation. The actual operations of freezing and storing a body will teach us many things and make the next steps toward the ideal easier and safer. Thus, if anyone can help us in any way please write, or, phone numbers may be found on a back page of this newsletter. Your efforts might help establish a historic landmark in the preservation and extension of human life

RESEARCH NOTE ON INCREASINGLY ECONOMICAL CRYOGENIC STORAGE

In an instructive class-book Professors Van Wylen, Lady, and Clark indicate that unusually efficient cryogenic storage containers can be constructed. The method is to arrange multiple layers of micro-glass fiber mats, and aluminum foil as a radiation shield, installed in a vacuum surrounding the inner container. The authors add, "With this insulation it is possible to store liquid hydrogen with a loss of only 10% in one year." (Cryogenic Engineering Fundamentals, University of Michigan, Ann Arbor, 1962) With liquid nitrogen, presumably the loss would be less.

If anything approaching this efficiency can be designed for small or moderate sized freezers it would be a remarkable achievement. Storage containers for liquid nitrogen often lose 4 and 5% of their contents per day. Many containers are more efficient than that, of course. In transport, truck evaporation rates approach an efficiency of .5% per day. Ship evaporation rates are .5% and .8% per day. Railroad tankcars vaporization rates sometimes reach .2% per day. Nevertheless, all of these rates are a far cry from 10% per year. If such efficiency were possible it would appear that liquid nitrogen replacement might cost as little as is spent on the upkeep of some graves.

NEWS OF BUDDING FREEZING FACILITIES IN ENGLAND

Our LES Coordinator in Hull, England, Alan Worsley, reports that he is now "on telephone" and will attempt to do his best to freeze anyone in need provided they help him manage the costs. He suggests that as a university research fellow his salary doesn't allow him to be so reckless as to offer free freezing. However, he has ordered a refrigerator for experimental purposes and his advice will be free. Heartfelt thanks are in order for Alan's great effort.

TOM TIERNEY, LOS ANGELES LES COORDINATOR, BECOMES LIFE MEMBER

Out of the blue, and in black and white, Tom sent us a check for \$100 for Life Membership. Many thanks Tom. That puts us well ahead of our super-cautious expenditures and will have a tendency to encourage a bolder program of freezing.

FRANCE: Marc Collet continues to be a one man dynamo for LES and the freeze-wait-reanimate idea on the Continent. He has gotten articles in magazines as divergent as Science et Vie and now Detective. As we get translations of these, plus Collet's French edition of our newsletter ("Congelation Attender Reanimation") we will have a further report.

LES RESEARCHER FORGETS TO SIGN HER ARTICLE

True to science and oblivious to personal credit, Judie Walton, wife of Prof. Wes Walton, typed a stencil of her report on DMSO frog and fish tolerance experiments and forgot to sign it. So this will give belated credit to her report which was included in the preceeding newsletter.

APPEAL TO DOCTORS

Our appeal to doctors continues. We are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and are faced with death.

NEXT LES IRON GATE MEETING: Second Tuesday of each month. August 10th, 8pm, Iron Gate Inn, 1734 "N" Street N.W., Washington, D.C.

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ANALOGIES WITH MAN ON THE MOON, FREEZING MEN AND REANIMATION

Freeze-wait-reanimate enthusiasts have often used the analogy between the attempts to send a man to the moon and the attempts to freeze humans. In each instance neither feat has actually been accomplished. No one, to date, has gone to the moon, returned, and shown that such an exploit is possible. Likewise, no one has been frozen and reanimated. Yet the adherents of both theories claim each is possible.

Now, K.F. Hutcheon, writing in the New Scientist (17 June 1965) provides thought for a further analogy in an interesting refinement of the moon race. He observes: "The really difficult part of the project, for both sides, is not to get the man there, but to get him back." (Exactly the sentiments of the freezing proponent.) Paraphrasing and quoting Hutcheon's letter on the left, note may be made of the similarities with freezing on the right.

GOING TO THE MOON AND RETURNING

1. "By 1969 it will be a simple matter to place a man on the moon."
2. "There will also be no difficulty in sending him supplies of food, oxygen and power.."
3. "He could be kept alive, if bored and slightly apprehensive, while he established priority and awaited developments."
4. "Technology is galloping ahead at a fairly predictable speed, and there is no doubt that sooner or later the means will be available to get him back."
5. "To send a man off without having fully developed the equipment to return him to the Earth would at the same time be a demonstration of faith in one's own progress and a spur to further effort."
6. "The risk to life would be surprisingly small..."
7. "The concept is, however, one that the Western world perhaps cannot accept. Would the Russians be so inhibited?"
8. "I repeat that this action could be carried out in the very near future..."

BEING FROZEN AND BEING REANIMATED

1. It is simple, physically speaking to freeze a human. It will be simpler in 1969.
2. Little difficulty expected in supplying the frozen ones with liquid nitrogen, electricity, etc.
3. He could be kept potentially alive, even if technically 'dead' while he awaited developments.
4. Technology is galloping ahead at a fairly predictable speed, and there is no doubt that sooner or later the means will be available to get him back.
5. To freeze a man without having fully developed the equipment to return him to active life would at the same time be a demonstration of faith in scientific progress, and a spur to further effort.
6. The risk to a possible future life would be surprisingly small in comparison to the grave or the furnace.
7. The concept is, however, one that some countries perhaps cannot accept. Other countries may not be so inhibited.
8. We repeat that this action can be done now.

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LETTERS TO THE EDITORS

To LES Members:

The college term over, I am now devoting full time to the cryogenic interment program, and will not return to school next fall.

There has been considerable response to the Johnny Carson program, and various other dates are lined up, including a mortuary college and several TV and radio spots in Chicago next week. There may also be additional magazine articles.

Another non-profit organization was formed recently in Hollywood, California (1717 N. Vine St.) by a Los Angeles businessman, Sam Cavnar; called Americoin, it is a division of Civic Association of America. They intend eventually to offer a complete cryogenic interment package, but at first plan to concentrate on research and education. They ask 15¢ for literature.

A new corporation is Cryolife, 2727 Main, Kansas City, Missouri, which plans, according to my information, soon to offer a complete package. Forrest Walters (131 Avenue C, Latrobe, Pa.), I understand, has also formed a corporation.

My own organizational efforts are progressing more slowly (naturally) than I had hoped, but progressing none the less. When the dust settles, I will probably be working with several organizations, on a consulting basis, in addition to my main effort.

There was another near miss in freezing last week. After the "Tonight" show, the grandson of a dying man in Baltimore wrote me asking for a physician who would help; I found one, in Baltimore, willing to cooperate, but the patient had died the day the letter was written. If the grandson had telephoned, the man might have been saved.

Bob Ettinger
Oak Park, Michigan

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(The following letter was also sent to the Editor of the Springfield Daily News Springfield, Ohio.)

Dear Sirs:

The "Life After Death Try" on the Springfield woman, as the story is told in the May 20, 1965 edition of the Springfield Daily News, which would have involved the low temperature storage of a clinically dead human being with a view toward future resuscitation, may very well be an early harbinger of one of the profoundest social innovations of this century or of all time.

Apart from questions of technique and feasibility, which obviously do not pose insurmountable difficulties for twentieth century medical technology, what is important here is the philosophy back of that operation that these men tried so gallantly to perform.

The dichotomous classification in our society that poses a rigid distinction between states of life and death does not in fact reflect an unalterable feature of nature. The distinction is arbitrary and shifting, dependent both on presently established mores and on various kinds of natural and social circumstances, as well as on the state of the medical art at any given time.

-continued next page-

LETTERS TO THE EDITORS continued

For an example of the effect of mores on this area of thought, one may consider the mode of conceiving death among a people of different culture, such as the Melanesian natives of the island of Eddystone in the Solomon Islands, as it existed near the beginning of the present century. During the course of the work of the Perry-Sladen Trust Expedition, Dr. W.H.R. Rivers was astonished to discover certain contradictory ideas of death among these people. Their ideas of death were little more contradictory than our own, but the point of interest was that they were ordered not around the life-death dichotomy, but around one of toa-mate. Any member of the tribe was considered to be in either a state of toa or mate. The young and healthy were toa. The old, infirm, and dead were mate.

The mate-toa concept could and did result, in their culture in (1) the exuberant participation in his own funeral, held in advance of death, by one considered to be mate, and in (2) the placid burial alive of those whom we would regard as critically ill. This behavior was not pre-logical, as the French anthropologist Levy-Bruhl thought, but the result of a widely differing concept of death, an instance in which "the facts of the universe" had been "classified and arranged in categories different from those of ourselves."

Dr. Ettinger understands this. He and the other men knew what they were fighting against. They probably also knew how slim the chances were that the prevailing social circumstances would have allowed them to attempt to save that woman. The tragedy is that there was a chance that they might have. They had arranged the natural circumstances thus; but the bonds of ignorance are a great constraint, and tradition, sometimes, goes stumbling blind.

What this culture must face, however, and what Dr. Ettinger must cause it to face, if he is to be successful, is this. One could wish, perhaps, to reduce its emotional valence by means of some guarded and indirect statement of the issue, but in the interest of a sense of urgency and honesty I prefer not to. So it is as follows.

The common life-death concept, free of the subtle distinctions of medical science (clinical, biological, cellular death, etc.) is causing precious people by the day--sons, mothers, fathers, social and political leaders--to be surrendered, upon a functional failure which need not be labeled "death," directly from hospital beds to burial and cremation.

Let me observe again, with the utmost clarity, the fact that the significant thing about the event at Springfield was the underlying philosophy involved. The woman was in effect on trial to be declared either dead or alive. If her society should declare her dead, she was to be treated one way, if alive, she was to be treated another. The conflict was over classification.

We discover, sorrowfully, that she was given up.

E. Wesley Walton
Spartanburg, South Carolina

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UNQUOTABLE QUOTE

"To be or not to be that is perfusion."

Tom DeWitt
Tunkhannock, Pa.

LETTERS TO THE EDITORS

Dear Sir,

Recently I wrote for information concerning your society. I must admit that you have greatly interested me. I am afraid that upon serious consideration I find grave doubts in both the scientific and the philosophical aspects of your proposals. Firstly your main aim, as I see it, is to preserve a medically incurable body until medical techniques are able to cure it. The scientific problem is merely one of population size. I am afraid I can see no reason for disturbing the homeostasis of our race in this environment further by preserving vast numbers of incurables.

The philosophical problem is more difficult in its conception. The whole idea is definitely macabre. Why should one want to escape death? It seems to me that a great deal of this desire is based on a morbid fear of the unknown. Unknown because no one person thinks of death in the same way as another. There is no simple definition or understanding of it. Be it a long sleep or merely a stepping stone into another life or whatever I do not really care. It is only a mere fancy that we can escape it. Even the people of our earlier societies realised this, with all their belief in the magic and the fantastic. Only the gods or the monsters ever managed to surleap death. You should read the beautiful Middle English poem 'Sir Gawain and the Green Knight.' It is inevitable (biologically and philosophically speaking) and I do not intend to spend the best part of my life dwelling on something that can only happen once. Unless you can alleviate my fears that this is not another manifestation of the peculiar American mind and its extraordinarily disturbed emotions I will not be able to join your society.

Oliver Peers Flint (Blue Cottage,
Upton, Nr. Didcot, Berkshire, England.)

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Dear Mr. Cooper,

I am most optimistic about the deep freeze and the future, but I get so tired of reading what some idiot enthusiasts describe as a beautiful future awaiting us with open arms and kisses--after reanimation. Hell! maybe it won't be like that at all. Will we be wanted? I think most people could adjust with extreme difficulty.

Regardless of how wild one's imagination may be, visualizing the future and living it are two different things. A man dies in 1970, 50 years old, and is revived in the year 3000 or later. He was a well adjusted secure person in his first life with morals and ethics of his own society. He is reborn and everything has changed: completely new morals, laws, etc. I wonder if he could adjust and accept the future?

People are presently born into a time in history and they adjust to their environment from childhood on, not as a frozen corpse would, beginning in middle age, when his character has set. Yes! you are to assume, I think, a fantastic change is going to happen affecting morals and laws. I don't know what, but this will happen.

What would other members' opinions be on this?

Marnie Stanley
Sausalito, California

WHAT IS THE LIFE EXTENSION SOCIETY?

The Life Extension Society (LES) is an incorporated, nonprofit, international, scientific and service-oriented society dedicated to the collection and distribution of accurate, scientific information, to the encouragement of research, and to the promotion of the extension of human life, especially through cryogenic means.

Our central concern is the welfare of the individual. Our task is to inform everyone possible of the hypothesis that if a person is properly frozen at or near clinical death, and stored in a cryogenic environment, that person may be repaired, reanimated, and even rejuvenated in the future, and restored to a normal life.

For those individuals who decide on low temperature storage rather than the grave or the fire, our task is to arrange for the safest and least expensive such storage possible. Our goal is to make this storage available to everyone everywhere who desires it, regardless of color, race, political or religious belief, location or status.

We are convinced that the scientifically safest procedure would be to have the necessary perfusion and temperature reduction arranged for in the best hospitals throughout the world. We can reasonably assume that the safest storage for any individual would be under international scientific direction, removed from national and business interests. At present this can only be a goal. Our immediate concern lies in arranging this process for those who are in need of it now.

Toward these ends LES has a number of services already available: A freeze-wait-reanimate newsletter, cards to register a person's wish to be cryogenically stored, limited freezing facilities, perfusion and freezing instructions, suggestions toward locating a competent doctor, a central file to preserve a record of those wishing to be frozen and later reanimated, emergency phone numbers, information for starting a discussion group, including reading lists, and suggestions for helping the movement, if you so desire.

What we would like to obtain are: New members, subscribers to our newsletter, your ideas, suggestions, short articles, humor, research results in cryobiology and cryogenics, candidates for our Advisory Council, LES coordinators in South America, Asia, Africa, and other areas. We are also most interested in locating competent doctors.

We certainly do urge you to join with us in this incredible adventure into the future, and ask us to serve you in any way toward the goal of "freeze-wait-reanimate."

For further information write the

LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C. 20036

INFORMATION AND HELP

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Please do not expect precision organization or categorical answers for every question you might ask. A number of our LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices, and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is obviously in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES WASHINGTON.....(202)723-5397	Evenings, some weekends and holidays. Ev Cooper. Days call (301)277-0246, Bill Albaugh.
Detroit area.....(313)543-2619	Bob Ettinger.
FranceContact Marc	Collet, Rosieres-Aux-Salines, Meurthe et Moselle.
Hull, England48114	Alan Worsley.
London, EnglandBEC 3290	E.G. Sibley.
Los Angeles, Calif.....(213)340-1949	Tom Tierney.
Manchester, England ...CEN 5601/2	Brian Gilbert, Again in Sept.
Mt. Rainier, Md.(301)277-0246	Bill Albaugh.
New Haven, Conn.(203)387-4228	Prof. L.N. Jensen.
New York CityCA-6 6686	Michael Hart.
Santa Barbara, Calif...(805)965-7393	Marie Phelps-Sweet.
Spartanburg, S.C.(803)583-9041	Prof. Wes Walton.
Tacoma, Washington(206)383-5495	Franklyn McDaniel.
Tunkhannock, Pa.(717)836-5761	Thomas DeWitt.
Waco, Texas(817)PR2-3802	Mr. or Mrs. E.D.Ellis.

MEMBERSHIP AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange)

Regular.....\$2 (The newsletter goes with all memberships.)

Contributing...\$5 or more. Life.....\$100.

If subscription alone is desired, it is \$2 for the year.

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

WASHINGTON, D.C. JANUARY 1, 1966.

Anyone, no matter where they might be from, interested in the freeze-wait-reanimate movement is welcome. The conference, replete with speeches, papers, luncheon, and discussion will be on Saturday.

Additional discussion and visiting on Sunday as desired. Papers are most welcome on any subject relevant to freeze-wait-reanimate. Begin planning and thinking now.

FOR FURTHER INFORMATION

Write to us. Communications and questions are welcomed.

Life Extension Society

2011 "N" Street N.W.

Washington, D.C. USA 20036

-nonprofit- -scientific- -international- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

APPEAL TO ANYBODY FOR A BODY FOR FREEZING

The Life Extension Society issues an appeal to anyone, anywhere, for a human body for the purposes of freezing. Why should we extend such a seemingly outrageous, not to mention, blunt appeal?

To begin: We have gone through the normal channels of appeal:

- a. To the UN asking that freezing facilities be established by the UN under scientific direction.
- b. To ministers of state and health of all countries asking that they inform their people that freezing offers a better scientific chance of some future reanimation than the grave.
- c. To universities, medical schools, and scientists, to begin experimental freezing immediately.
- d. To doctors that they should be willing to perfuse and freeze any person who desires to try the cryogenic option.
- e. To hospitals that they make their facilities available.
- f. To convalescent homes, rescue squads, and others, that they should freeze those who cannot be revived on the chance that those non-survivors might be reanimated in the future.

All of these appeals plus the appeals of other individuals have not succeeded in freezing the first person.

Perhaps 75 million people have died since freeze-now has been advocated during the last three years. Given the individualism in human nature, isn't it almost inconceivable that at least one of those 75 million didn't break through the iron bands of tradition into the preservation of cryogenic suspension? How conforming can a species be? (There was one valiant effort, but the dead weight of the encircling Ohio sub-culture stifled the attempt.) It is incredible to us that a scientific experiment hasn't been made to freeze a human with the purpose of at least attempting a reanimation when science is sufficiently advanced. This is especially important considering that the human will be lost if the effort isn't made. No harm can be done by the experiment, and inestimable value may accrue to mankind if science does develop the techniques to reanimate any reasonably well-frozen person.

In short, it is unthinkable that the freezing experiment should not be made. Thus LES asks anyone, anywhere on Earth, to help us obtain a body for the purpose of initiating and stimulating cryogenic storage of humans.

We cannot expect perfection to start with. We will accept any body for freezing even if the person has been dead for sometime. We would prefer ideal conditions to begin the program, but if a hospital perfusion and freezing at the optimum moment isn't possible, an

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APPEAL CONTINUED

imperfect start is better than no start. (Think of Langley's first air-flights, or Goddard's first rockets, for example.)

So, if you can help us, no matter who you are, through ethical means, of course, to obtain a body for these futuristic experiments it may be a boon to mankind. Besides, we are desperate for a body. How can we appeal to you? You will become famous. You may go down in history as a pioneer in helping to extend human life. Your institution or firm may flourish. You may gain wealth and prestige. Or, if you prefer, you will have served mankind well.

There will be no cost to you. LES can more than likely pay any costs that would occur. LES has extremely simple facilities and has a standing offer to freeze the first person free, or the second, or the third, etc. LES doesn't offer a fancy freezing, merely the scientifically simplest that will get that temperature down into the cryogenic ranges and keep it there. (Dry ice and liquid nitrogen temperatures.) We won't claim that the person will live again, but he might help others live again. By the same token we cannot absolutely rule out that he may be reconstructed and reanimated if science becomes sufficiently advanced.

Again, no matter where you are on Earth, if you can help, write, telegraph, or phone. Note the various phone numbers of LES (2011 "N" St. Nw.)(mailing address only) near the end of our newsletter.

To LES members let us especially urge you toward action. Think and work toward emancipating individuals (who wish it) from a necessary grave. Be alert; investigate on your own initiative. Locate a body for freezing. Lastly, if we have been flip, blunt, or melodramatic in our appeal, it is to get you moving in a low temperature direction that might save and extend the lives of thousands, conceivably even your own.

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SHORT RESEARCH NOTES

As scientific research progresses we can expect experiments to indicate new compounds for perfusion, increased sophistication with the control of air pressure and oxygen content during perfusion, and lower temperatures and longer storage times with survival of experimental animals. All of this can be applied to the preparation of humans for cryogenic storage. Though a 50% solution of DMSO is still the best perfusate suggested for large animals and humans, it is interesting to note that chlorpromazine is finding success in the storage of dog hearts under pressure within 4°C of freezing for as long as 72 hours. See: Surq. Gynec. Obstet. 120:1237-1245, June 1965.

THE NEW SCIENTIST LIQUID HELIUM ARTICLE

There seem to be considerable variation in scientific reports on how efficiently liquid nitrogen, hydrogen, and helium may be stored. A recent article on the history, manufacture, cost, and storage of liquid helium indicates that new types of storage containers (thermos with reflective foil and insulation within the vacuum wall) can store liquid helium with a 1% loss per day. See: New Scientist 27:138-139, 15 July 1965.

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MISCELLANEOUS NEWS AND NOTES

MEMBERSHIP AND THE LIFE EXTENSION SOCIETY We now comprise over 240 members and subscribers. The Life Extension Society is an incorporated, nonprofit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the extension of human life especially through cryogenic means.

NOTE OF THANKS FOR THE SERVICES AND CONTRIBUTIONS OF MEMBERS & OTHERS

We would like to thank Major J.W. Martin for becoming a contributing member, and we should also like to thank the other contributing members that we may have missed in the past or were in doubt whether it was all right to publish their names. Thanks also to all of those who have contributed time and service on posters (Karl Weßner), and all who have helped on the newsletter (John Prince, Bill Albaugh, Ernest Karlsen, Paul Romsburg, and others). Apologies to those we have missed.

Thanks also go to the New Individualist Newsletter for reprinting our letter which brought in numerous requests for information. (New Individualist Foundation, P.O.Box 145, Mercer Island, Washington.)

PROFESSOR WALTON, WITH THE AID OF THE NEWSPAPERS, STIRS THE SOUTH TO LIFE

Writing letters, articles, and giving interviews, Professor E. Wesley Walton, our LES Corresponding Secretary has increasingly opened the South to LES. He has helped initiate and augment a debate in the newspapers on the merits of freeze-wait-reanimate. Sandra Grant, staff writer for the Spartanburg and sympathetic to the freezing movement wrote an article on Professor Walton and LES which was fairly widely circulated. Letters to the Editors followed and the debate was added to by Russell Kirk, columnist unsympathetic to the freezing theory, who chided Miss Grant for her optimism. Though Spartanburg has been pleasant and even receptive to Professor Walton's views there were tense moments in the Walton household, for it is generally known or felt that the South in the past hasn't been hospitable to new ideas. However, times change. The debate continues. We thank the Waltons for their courage and we continue to hope for the best.

PROGRESS IN FRANCE Marc Collet, LES representative in France, continues to be irrepressible. He continues to get articles about freeze-wait-reanimate and LES in the papers. He continues to gather in new members and would enjoy visiting with LES members who come to Rosieres-aux-Salines from other parts of the globe. Write to him in advance, of course, and in French if at all possible. Collet has also been traveling throughout France meeting with people who might be helpful in the freezing movement. We cannot thank him enough for the tremendous amount of work he has done.

NEW ORGANIZATIONS: Continuelife has been formed in Latrobe, Pa. (131 Ave. "C") by Forrest Walters, an accountant and continuing LES member, and former LES Coordinator for the Latrobe-Pittsburg area. Continue-life is to be a profit making organization but as yet is still in the forming stage. Like the name indicates the corporation is intended to provide goods and services in the area of cryogenic storage for humans. Forrest Walters indicated by phone that both he and Bob Ettinger are directors of the company. // In New York, four LES members (Sutton, Costello, Henderson, Werner) (and Saul Kent) believe they can promote the freezing program more effectively by forming another organization, the Cryonics Society of New York, Inc. (103-55 97th St., Uzone Park)

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LETTERS TO THE EDITORS (Oliver Peers Flint's letter in the previous issue directly questioning the value of freeze-wait-reanimate in its philosophical, scientific, psychological, and population aspects has stung two LES thinkers to reply. The replies of both Professor Walton and Thaddeus follow.)

Dear LES Members,

It has been suggested in a letter to the editors¹ that life extension might upset the homeostasis of the race. Before waging a war few men have long deliberated whether a drastic population reduction would upset it. When we would consider the destruction of life, it takes the promise of a holocaust to disturb us. Otherwise, we sleep like the sleepers of Ephesus.

From the standpoint of life's preservation, we are more sensitive. Certainly any man thinking offhand, when he considers the prospect of a dramatic extension of life, may will pose a number of questions on short order. Among the first considerations is the equilibrium of the human race, which, where the proposed measure is concerned, involves three different things. One is the matter of population control, the other concerns the adaptability of some segments of the economy. Finally, there is the theory of palingenesia. The first two of these have already been seriously considered, both by professors Ettinger and Feinberg, and by other members of the Life Extension Society, including its president, Evan Cooper. Palingenesia has been brought up too, but not by name.

Mr. Flint's questioning of the feasibility of the nondeteriorative storage of the presently incurable seems in part to amount to a concern for available space. Yet a buried body in any condition occupies a fixed area, and in fact, monuments and bodies strewn out over the earth's surface nowadays occupy more space than mere bodies might, maintained in cryogenic buildings of several stories. Anyone who has noticed the vast, blanched cemeteries burgeoning in modern cities may also enjoy a wry smile at the origin of "cemetary." It derives from the Greek koimeterion, "bedroom."²

These are not bedrooms. These are nations that are not! I don't know whether it has yet been considered, but we have a storage problem now. The stored article is undeniably macabre. In the meantime the world population, in a condition of near unrestricted growth, continues to spill over into the cemeteries. Living standards deteriorate, the quality of life is shallow and brief, and few there are can carry on long enough to win virtue and wisdom, --not to mention material comfort, or even enough food. We have no homeostasis. We have never had it. What we have is a flickering between life and death.

Palingenesia (not to be confused with palingenesis), drawn from the Greek, and basically meaning something like "birth-recurrence," is a word that, although it will not be found in some dictionaries in this sense, has lately been used³ to stand for the belief that the vigor of

¹That of Oliver Peers Flint in the July, 1965, newsletter.

²Greek-English Lexicon, ed. by Liddell & Scott (Oxford: Clarendon Press, 1961), p. 968.

³Joseph Campbell, The Hero With A Thousand Faces (New York: Pantheon Books Inc., 1961), p. 16.

the human race depends on a population turnover through death and the birth of replacements. "The hands of the sisters of Birth and Night," as Walt Whitman put it, "incessantly wash again and ever again this soiled world." Man must not resist death, holds the theory, but must piously await the "great at-one-ment." This thought is unconsciously acknowledged in the typical commencement address, which takes as its theme, "My generation has blundered. It is up to you. . ." --a ritualistic acquiescence in the turnover of the generations, after the fact.

At the core of the theory of palingenesis rests the assumption that death is natural, inevitable, and consequently is draught to be acceptable. Yet merely that a thing is "natural" should be no worthy recommendation for anything. As Toynbee writes, ". . .to be human consists precisely in overcoming the biological limitations that we have inherited from our prehuman ancestors."⁴

Even the supposed inevitability of death has been profoundly questioned. Dr. Helmuth Plessner, professor of sociology at the University of Göttingen, Germany, writes that

death belongs only conditionally and factually to the nature of man. Its exceptionless "must" conveys no inner necessity. If it did, we should have to regard the phenomena of rebellion against it, or of acceptance and pious resignation, as irrelevant and meaningless in view of the allegation of the simple finiteness of human existence. If it were so, death would be natural, even self-evident to man, a verité éternelle and not a verité de fait, a material a priori of genuine essential necessity, and not a factum brutum, a tremendum. The fact that all living creatures must die, which we men know--though only from experience--is not compatible with the contention that human existence is essentially finite. Man's knowledge of this fact as a fact raises him above mere finiteness; which thus comes to his consciousness as a fatality, as something contrary to his essence, an accident, despite its naturalness and matter-of-courseness.⁵

Dr. Arthur W. Galston, in a speech before the Yale Alumni Association of Northern California, wrote a peroration to the whole argument: "Is death a necessary consequence of life? The answer delivered in the last generation or so by biologists is a resounding No."

It is likely, then, that palingenesis is only a rationalization of death. I personally cannot believe that the health of the human race depends on the regular, wholesale obliteration of the generations. It is much too near the old mythico-religious idea of purification by blood sacrifice. That delusion is woven so fondly into the texture of man's history, that if a variant of it arose lately in the concept of race purgation through genocide, it is entirely understandable in ordinary human terms.

⁴ Arnold Toynbee, The New York Times Magazine (May 10, 1964), p. 30.

⁵ Helmuth Plessner, "On the Relation of Time to Death," Man and Time, Papers from the Eranos Yearbooks (New York: Pantheon Books Inc., 1957), pp. 248-49.

In another letter to the editors in the July issue of the newsletter the question is raised as to whether a resuscitated person could adjust to a future a thousand years removed. This possibility should be weighed against Dale L. Carpenter's estimate of twenty years to accomplish whole-body freezing and rewarming. Dale Carpenter is the head of biology projects in the bioastronautic department of the Marquardt Corporation.

Those who ask those questions may not have observed how many citizens of the twentieth century inhabit the middle ages. They are not only getting along. Some of them stand fair to set us back.

The same member is afraid he might be resuscitated to a kind of hell. There is always that possibility. Still, even if we were likely to awaken as the fiends of a genuine hell, there are those rascals who would take that gamble,

. . .for who would lose,
Though full of pain, this intellectual being,
Those thoughts that wander through Eternity,
To perish rather, swallowed up and lost
In the wide womb of uncreated night,
Devoid of sense and motion?

Sincerely,

E. Wesley Walton

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Dear Ev,

Well, the newsletter was pretty interesting.

As for population size and having to die to make room for more births I feel if I have to die for this reason I am not willing to do so. I would rather fight than die. The answer is simply that people will have to quit having so many children.

As for fearing the unknown, only those that will live will be faced with the unknown as the future is unknown and not secure. When a person dies there is no longer an unknown to fear. . . .

Just because no one escaped death before is no proof it won't be done. The cave man never orbited in space, or had television either. There has to be a first.

The only thing one has to fear is fear itself as Roosevelt once said.

I'll admit there is a tinge of good old American pragmatism that may be giving an incentive to extending a useful life. After all, common sense says that it is downright wasteful after a man works, slaves, and accumulates, only to find his body has deteriorated and his much-cherished experience will be nullified by death. Death under these circumstances just doesn't make sense. As for me I'd rather be emotionally disturbed and living rather than perfectly balanced and rotting six feet under.

Truths never really change. Humans were humans and probably always will be, though maybe improved. Men and women had their same problems, delights, and goals 2,000 years ago as they do today. Sex didn't change much. There were rapes then as now, sex perverts, the battle between the sexes and even wife and mother-in-law problems. .

Who says the future will be all bliss? What period of history was? As for me I'd like a few problems if I were reanimated to have the joy of figuring out. I hope I never run out of problems because if I

did, what would there be left to live for?

Pain, frustration, hope, and hard work are a part of life, a necessary part. Dead people lose them.

But for the man who can't adjust to the future, he should be allowed the privilege of dying.

We must remember that each of us has our own goals and desires which we wish to fulfill. For those of us who would like to live longer we have the right to attempt to try and find the way for this. For those who want to live 40 years, 65 years, or whatever, they should set their goals thusly. However, much is left to chance and many of us will not even approach our ends.

The future is unknown and life is a struggle whether heroic or insignificant.

Well I hope my views won't offend too many people. People are different and I'm glad they are. Best of luck and I'm looking forward to the next newsletters.

Sincerely,
Thaddeus

(The following is a quote of the good-natured kidding we received in the Medical Tribune, August 9, 1965, p. 23.)

"IMMATERIA MEDICA" "ON THE ROCKS"

"Many are called, but few are frozen," says the invitation to last January's 'Freeze-Wait-Reanimate' conference, and that's a line that's hard to top.

"The conference was run by some of those chaps who want to freeze us as we approach a point of death, age, or illness that science has not yet learned to deal with successfully; then, thaw us out when science has caught up with the dilemmas we presented.

"There seem to be many problems connected with the program, in addition to those related to tissue preservation. Where do we pile up the frozen bodies? What are the legal implications of a power failure at the freezer? How does one straighten out the emotional tangles of handsome Joe Doe, frozen at 30, reanimated 30 years later, still a strapping 30-year-old, to find his wife now 57 and remarried, and his little son a grown man of 37? Who gets to keep the cuff links he bequeathed to his nephew?

"We assume that the experts in cryogenic storage, as they call their field, will be working out these tangled knots. In the meantime, we thought we'd share two excerpts from the conference invitation with you:

"Scientists and others are arranging to be frozen in the event of death, but why is it so difficult to locate doctors who will agree to perfuse and freeze the person in need?"

"This conference will be simply a small gathering to exchange ideas, information, discuss problems, and plan for the next year as best we may. So, if it is easy for you to come, please do so. But don't come if it means wasting your resources and almost killing yourself to get here."

"Obviously, cryogenic storage is in its infancy." (End of quote)

Yes, those problems and more remain. Won't you consider coming? It will be the THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE, WASHINGTON, JANUARY 1, 1966. We will have speeches, papers, luncheon, discussion as usual. Consider writing a paper on any topic relevant to freeze-wait-reanimate. Begin writing now. The conference committee so far is Peg Howard, Leo Orso, and Peter Kline. Think, plan, scheme, come. You will be welcome.

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Hull, England48114 Hull	Alan Worsley.
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NEXT IRON GATE MEETING SEPTEMBER 14th

Members in the Washington area meet on the second Tuesday of each month, 8pm, at the Iron Gate Inn, 1734 "N" Street Nw., for dessert, coffee, and discussion. Part of this next meeting will be devoted to discussing the ideas in E.G. Sibley's book For Ever And Ever.

FOR FURTHER INFORMATION

Write to us. Communications and questions are welcomed.

Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C. .U.S.A.
 20036

Sept. 1965

Vol. II, No. 16



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

RESEARCH PROGRESS

ASTOUNDING ADVANCE IN ANIMAL BRAIN FREEZING AND RECOVERY ACHIEVED BY PROFESSOR ISAMU SUDA OF KOBE UNIVERSITY.

A CAT'S BRAIN has been frozen to -20° centigrade for over six and one half months of storage and returned to life upon thawing. The reports we have (New York Times News Service, Santa Barbara News Press) are not free of ambiguity, but the outlines of this great advance are as follows.

The cat is anesthetized. The brain is exposed, but before it is taken from the skull it is washed in heparin or some other anticoagulant. The brain is then injected with 15% glycerol to prevent damage to the cells as they are frozen. The brain was then gently lowered in temperature and put in cold storage at 20 degrees below zero for 203 days.

REANIMATION OF THE BRAIN was accomplished by warming and thawing the brain until warm blood (37°C) could be circulated through the brain gradually returning it to life. If the cat's brain was alive it should produce a brainwave, the record of which is sometimes called an EEG. The report is emphatic: "A Japanese scientist has restored a cat's brain to life after 203 days in deep-freeze," and, "the revived organ produced a brainwave intensity identical to that of a live cat."

This historic advance was reported by Professor Suda, of the medical department of Kobe University, at the 23rd International Congress of Physiological Sciences, meeting recently in Japan.

WHAT DOES THIS MEAN FOR THE FREEZING AND SUSPENDED ANIMATION OF HUMANS?

It means we have experimental results that indicate it is increasingly certain that the human brain can be frozen, stored, and revived. It may well mean that something of this injection process may be the best for humans.

We shudder to think of our brain estranged from its cave, its home, its comfortable brainpan. We find it virtually impossible to imagine. Nevertheless, if our survival really depended upon it, many of us would submit to such an operation. Suda's research doesn't mean such a separation is absolutely necessary. It is, however, one alternative we should explore. It indicates a reasonable possibility for the storage of the human brain.

SUDA'S EXPERIMENT appears to mean that if perfusion via the blood vessels isn't sufficient to get the glycerol or DMSO through the brain, then injections of these or similar cryoprotective agents may be necessary.

This experiment may mean that the brain will be protected differently in comparison to the rest of the body. For instance, glycerol may be

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best for the brain, and DMSO may be best for the body. On the other hand, future experiments may indicate that DMSO or some other cryoprotective agent is superior.

THIS EXPERIMENT REINFORCES the view that the preparation of the person for cryogenic storage can be a highly technical matter. It should be done under scientific control in the hospital. If Suda's experiment is used as a guide, the cooling, washing, and injections should be initiated while the person and the brain are still alive. This won't always be possible, but for survival it would be preferred.

SUDA'S UNBELIEVABLE FEAT appears to open the door in the near future to the short term preservation of some patients with terminal illnesses. Increasingly patients will be held for short periods of time at temperatures just above and below freezing and returned to activity at will.

IT WILL ADD CONFIDENCE that even if we cannot reanimate from the very deep frozen condition right now, we can freeze right now, thus saving the person, and biological technology as the years pass will figure out how to safely reanimate any person who had been previously reasonably well perfused, frozen, and held in that state.

IF WE LET OUR IMAGINATION go way-out, we can consider the storage of the brain alone, to be reanimated later, and placed in a body which has been grown from one of the original body cells. This arrangement should be especially appealing to those who worry so much about space and the cost of refrigeration.

FOR HUMAN CRYOGENIC STORAGE a difference from Suda's experiment is that much lower temperatures must be used for long term preservation. This is what other research indicates.

SUDA'S REPORT, AND THE EXPERIMENTS THEMSELVES, must be doublechecked. LES has written to Dr. Suda and hopes for a reply. Independent verification of the experiments will take longer.

WE CAN HOPE no mistake has been made in communication and that the report is no hoax. We say this because it is almost too good to be true. But if true, progress has leapfrogged beyond dreams. No one would have been greatly surprised if this depth of temperature and length of storage hadn't been achieved until 1980 or 1990. But here it is today, that a brain, albeit atcat's, has been frozen way below zero, stored for a long time, and revived. Another advance like this and we really are going to believe that progress is occurring at a geometric rate.

COMPETITION FOR SUDA OF KOBE BY KUDO OF KEIO

Dr. Kudo of Keio University, reported at the third International Congress of Neurological Surgery at Copenhagen, that he has been able to reduce the temperature of the human brain to within 5-6° of zero centigrade for operations with complete cerebral circulatory arrest ranging from 53 to 153 minutes. That is, for as long as 2½ hours during these operations there is no blood whatsoever flowing through the brain. The brain is dormant or virtually in suspended animation and yet it can revive. The method is to remove the blood and substitute a low molecular weight dextran solution flowing in at zero centigrade. When the temperature above is reached in the brain the flow is stopped for the operation.

Professor Kudo had previously lowered a patient's temperature to within 5-6° C, for radical stomach and cancer surgery, for 1½ hours with survival. (See Medical Trib. Sept 13, 1965, and Keio Jour. of Med. (March 1963))

ON THE ETHICS OF EXTENDING LIFE: You rarely hear a person refuse a new discovery by claiming that, "It is tampering with God's Kingdom." We are too sophisticated for that. Nowadays, we resist a new possibility, such as the prospect for an extended life, more subtly. We hear people say that the desire to extend our individual lives beyond the normal lifespan is ignoble, cowardly, and egoistic. Is this true? Or do such attitudes make death easier to accept? Professor E. Wesley Walton has some thoughts on this subject.

ISN'T IT IGNOBLE, COWARDLY, EGOISTIC?

Ignoble? Is the will to live ignoble? Hardly. From an etymological standpoint, the word noble is most appropriately applied to the well born and thus known (Lat. *gnobilis*). The nobility of the past, from Homer's heroes to the French aristocracy of the seventeenth and eighteenth centuries A.D., have been characterized in large part by not merely a will to live, but to flourish and wax dominant. If it was ever noble to die, it was only because life was rare and sweet and required a magnificent cause to move one to relinquish it. Where life is cheap, causes are tawdry.

Cowardly? Then destroy your hospitals, dissolve your medical foundations, obliterate from the annals of history the memory of Hippocrates, Galen, Harvey. In fact die. Refuse to struggle to make the Earth, our home and mother planet, a pleasant and just place for man to live. Forego the battle. Abandon the painful effort up from the dark gulf of past time. Do it. But nobody will thank you for quitting for a coward, and evolution will never forgive you.

Egoistic? Well, are you thinking about your own life or somebody else's? If it is yourself you are thinking of here, if you think your life is not worth continuing, you should have the right to refuse medication at the first opportunity. If you have someone else's life in mind, it would be well to let him decide for himself. The Life Extension Society exists, if we may say so, because we want the both of you to stick around with us.

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ETHICS OF THE RIGHT TO ATTEMPT SURVIVAL

In normal times, and in an orderly country, a sick person has a right to any means that offer him even the slightest possibility of survival.

If only an operation can save him, then the operation must be carried out, no matter how great the risk, and even without the consent of his family. His own consent is the only one necessary.

--Achille Dogliotti

LETTERS TO THE EDITORSLETTER FROM MARC COLLET

Dear Mr. Cooper,

You seem to feel it is useful to exchange general ideas. Here is how one could talk to some people--but not to everyone.

We are born too early, before the remedy has been found against heart attacks, cancer and old age. If we survive (freeze-wait-reanimate) we shall live indefinitely, in better health, younger and happier than ever. We shall be able to experience the most fantastic adventures, such as no novelist could have dreamed of. The Cosmos has no limits. Duration has no end. One can imagine that a remedy shall be found against accidents. One can presume that we shall be made into supermen capable escaping the most fantastic dangers. Since the amiboide cellule which gave birth to the human race, progress has not stopped. It will not stop. There is not a chance that it might stop. A long time ago super-intelligence may have seen this Paradise that awaits us. (Maybe Christ tried to bring on quickly its advent.)

By way of the foundations established the scientific and rational civilization has started. The cosmic rockets which are such a marvelous thing are only hors d'oeuvres, or the prelude to the show, because that future is only starting. For each one of us it will be the future of everything possible. You will have time to read, time to think, time to love. What kind of world do you want? The paradise of Mahomet? A vacation planet?...What kind of a man are you going to be? a scientist an artist? a king maybe? What will you do with your immortality? What will you do? ...EVERYTHING. You shall do everything.

This is at least the way one dares to speak to someone as you, as myself, and some other peoples, because for many people the Future World exists only through their nightmares. Their sad souls only see fright...Lack of imagination? routine? Up to now the future was rheumatism and ugliness, sorrows, sufferings and death with, in the meantime, much grief, many tears...too much misery. These people have the impression they do not want to live beyond a so-called "normal" life. We shall try to convince them. One will need much friendship and much patience...and time...too much?

The Freezing Program can and should start as soon as possible. Every day, by the thousands, children die: everywhere because the death angel is blind...yours? mine? how could one not tremble! They die of leukemia: maybe in a year or so one shall be able to find a remedy to this sickness. They die of incurable disease, of accidents. It would be sufficient that they sleep deeply...that they not live for a while.

And to think that the way exists! right now! And no one does anything. The people really qualified say: "Yes, you are right, it is possible, it is well, you are right." Or they even say, "One should do it." But it has been possible for several years, and who presently is actively busy about it? Professor Robert Ettinger, physicist, Professor E. Wesley Walton, philosopher and linguist, yourself Ev Copper, engineers, biologists and cryobiologists maybe, but not the old authorities, only young people, such as the individuals we have been talking about. Where are our scientists? Mystery? In the meantime the children die every day by the thousands, irremediably. It is monstrous. I do not understand it. In a few more years maybe their parents shall say "If only we had done everything to save them! Now we would know how to defreeze them and cure their sickness. What were we thinking about in 1965? Why didn't the scientists and authorities tell us about this?"

(Translated from the French)

Marc Collet Rosieres-Aux-Salines
France

Sep. 10, 1965

To LES members:

A Phoenix business man, E. Francis Hope, tells me he plans to build a cryogenic interment installation, and has contracted for land between Phoenix and Tucson.

Cryolife Corporation, 2727 Main Street, Kansas City 8 Missouri, reportedly is prepared to "accept contracts on a limited basis," and also ready to accept emergency patients if they can be gotten to Kansas City before death; they would be kept temporarily in a mortuary.

The organization formed by the Dutch lawyer, Klaassons, is Stichting International Biological Research Foundation. Mail can be addressed to the secretary, A. Smink, Valkenboslaan 158, 's-Gravenhage, Holland.

The paperback edition of THE PROSPECT OF IMMORTALITY is due, I am now told, early in 1966, and will contain names and addresses of all known organizations. The German edition is due this month, and seems to be getting considerable notice in the German press.

My second date on the Merv Griffin TV show was Sep. 7 (shown on other dates in some cities). A third date, apparently firm, is Sep. 22.

Although I have had many discussions with individuals and firms interested in cryogenic interment, let me emphasize for the record that I have no business connection with any company.

I believe I can handle an emergency freezing, given adequate warning (from a day or two to several days; depending on location and circumstances) and full cooperation of the patient and next of kin, including a willingness to move the patient before death to another part of the country, if necessary. I am sure I can find financial help for the family to the extent necessary, although they would be expected to bear the cost as far as reasonably possible.

If anyone wants to reach me, to request or give advice or help, my address is 24041 Stratford, Oak Park 37 Michigan; telephone (313) LI 3-2619 or LI 6-4012.

R.C.W. Ettinger

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APPEAL TO DOCTORS

Our appeal to doctors continues. We are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and who are faced with death.

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UNQUOTABLE QUOTE OF THE MONTH: Celeste West of Portland Oregon writes that she is "enthralled" by the freeze-wait-reanimate idea and adds:
"I think you people have a fine madness. .. May every shroud have a silver lining!"

WHAT IS THE LIFE EXTENSION SOCIETY?

LES is an incorporated, nonprofit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the extension of human life, especially through cryogenic means. Our central concern is the welfare of the individual in obtaining freezing if he desires it, and in his safety during cryogenic suspension.

LES IS GROWING

Currently we have over 265 members and subscribers which compose our society. Recently Helmut Bosgard became our first LES member from Australia. The distribution of our membership might be thought of as a bell curve beginning in Australia, running through South America, the bulk and peak in North America, tapering off through France, England, and Germany. France has 10 members through the thought, energy and expense of Marc Collet. For Marc it is either do or die, and we doubt if "die" in any final sense exists in his vocabulary.

Though LES is growing in the areas above we greatly need members and their ideas from Asia and Africa. Is it possible that this is where freeze-wait-reanimate is needed more than any other place? Where disease and malnutrition make millions live lives of quiet and dull torpor, wouldn't considerations of equity indicate they could use a new life as much or more than anyone? Anyone have any ideas on extending LES to these areas?

LES MAIL

So far this month we have had over 150 pieces of mail coming in and over 180 pieces leaving. This is separate from our regular newsletter mailing. August was much lighter than this month. Perhaps part of the reason was that part of our mail went astray during vacations and didn't catch up with us until September. We hope that no mail went astray completely. But if you didn't receive an answer to your inquiry or letter do write again. So far we have been able to give each person a personal reply, but of course we don't know what the future will bring.

NOTE OF THANKS FOR THE SERVICES AND CONTRIBUTIONS OF MEMBERS & OTHERS

We cannot begin to thank everyone who has helped us: Bob Ettinger for all of his trips, TV work and writing, Marc Collet for all his work and personal expense, all of the people in the Washington area who have come to the meetings and who have helped with the work of the newsletter, E. Francis Hope for becoming a contributing member, all of the persons who wrote to us, who wrote letters to the editors but could not be used, or cannot be used as yet. Apologies to all those we have missed.

REPORT ON OUR OFFER TO FREEZE THE FIRST PERSON FREE

Our offer is still open. We offer to freeze the first person who desires it, and who is in need, free of charge. We also offer to freeze someone who is already dead, for experimental purposes, free of charge. The Village Voice in New York very kindly carried notice of our offer. Perhaps 15 or 20 people have written in to us in response and three stated in their letters they were deeding over their bodies to LES upon death. Many thanks to John Wilcock and his column in the Village Voice and to those who so generously responded.

The American University educational broadcast station WAMU carried two broadcasts of our offer and on the nature of the Life Extension Society. We are very grateful for their help.

THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE WASHINGTON, JAN. 1, 1966

Carrying on a long and venerable two year tradition we will hold our third winter conference on the freeze-wait-reactivate hypothesis, Saturday, January 1st, 1966. Anyone from anyplace on the planet will be welcome. Please do not expect an elaborate conference. The conference will be simply a small gathering to exchange ideas, information, and plan for the next year and the future as best we may. So, if it is easy for you to come, do so, but don't come if it means wasting your resources and almost killing yourself to make it.

We will have speeches, papers; luncheon, and discussion as usual. Sunday will be open to further informal discussions and visiting as desired.

Consider writing a paper on any topic relevant to freeze-wait-reanimate. Begin setting your thoughts down now.

The conference committee so far is composed of Peg Howard, Leo Orso, and Peter Kline.

The cost is expected to be the same as last year, three dollars.

Think, plan, scheme, come. You will be welcome.

FREEZE-WAIT-REANIMATE IN ENGLAND

In a letter from Gerald Evans in Swansea, he says, "I have not been inactive over these last few months as you can see from the article in the attached journal. I have also got in touch with E.G. Sibley (LES London Coordinator), and in my latest article in BASRA* I am inviting readers to join L.E.S. through me and form a British Chapter. The editor is very helpful, and he says my first article has met with a good reception. He has offered me a page in his journal for reporting future activities. This journal circulates to amateur scientists."

* BASRA is the British Amateur Scientific Research Association. Mr. Evans' article is entitled "Freeze-Wait-Reanimate" and can be found in BASRA's Quarterly Journal, Vol. 2, No. 2, June 1965. The address of BASRA is, 64 Ridge Road, Kingswinford, Staffs. England. Their June issue is a 25 page mimeographed edition with such articles as "Animal Intelligence," "The World's Smallest Satellite," "Basic Research in Bioscience," and "Scientific Method and the Crackpot."

Congratulations, Gerald, for your article, advancing the idea, and for your efforts toward new members.

Alan Worsley, LES Coordinator for Hull, has not only been able to visit and exchange ideas with E.G. Sibley in London, but has visited Marc Collet in France. The difference in languages was quite a problem, but not sufficient to keep the exchange from being rewarding.

LAST MINUTE THANKS TO HELEN SILVER

Mrs Silver volunteered to help LES with technical information, in locating it and transferring it on to us. She has done nobly. She was the first to notify us of Dr. Suda's report on freezing and reviving the brain of a cat. Many thanks again.

NOTE TO LES COORDINATORS EVERYWHERE As the number of LES members and interested people in your area grows, consider gathering those who would like to together for an informal meeting. Some of you have already done this. We would be glad to carry notice of any future meeting in the newsletter.

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington.....	(202)723-5397	Ev Cooper. Or, try (301)277-0246
Detroit area.....	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France	Contact: Marc	Collet, Rosieres-Aux-Salines,
		Meurthe et Moselle.
Hull, England.....	48114 Hull	Alan Worsley.
London, England	BEC 3290	E.G. Sibley.
Los Angeles, Cal.	(213)340-1949	Tom Tierney.
Manchester, England ...	CEN 5601/2	Brian Gilbert.
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh.
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen.
New York City	CA-6 6686	Michael Hart.
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton.
Tacoma, Washington	(206)383-5495	Franklyn McDaniel.
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt.
Waco, Texas	(817)PR2-3802	Mr or Mrs E.D. Ellis.

MEMBERSHIP AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange.)
 Regular.....\$2 (The newsletter goes with all memberships.)
 Contributing member...\$5 or more. Life member...\$100. If a subscription alone is desired it is \$2 for the year. Check is preferred, made out to the Life Extension Society, and indicate what you wish.

NEXT IRON GATE MEETING.....OCTOBER 12TH.....8PM

Members in the Washington area meet on the second Tuesday of each month, 8pm, upstairs, at the Iron Gate Inn, 1734 "N" Street Nw., for dessert, coffee, and discussion. Bring your ideas and come. You will be welcome.

FOR FURTHER INFORMATION Write to us. We would be most interested in hearing from you and would try to answer any questions you might have.

Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C. USA
 20036

-international- -scientific- -nonprofit- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

HAPPINESS IS DOUBLE IN RECEIVING AFFIRMATION ON BRAIN FREEZING EXPERIMENTS, AND, IN RECEIVING A FAVORABLE DISCUSSION OF THE FREEZING IDEA IN LIFE MAGAZINE

THE LIFE MAGAZINE ARTICLE Albert Rosenfeld wrote a long and stunning discussion of the current biological revolution in the October 1st issue (pages 94-110). The general contention is that man and science are increasingly controlling life and thus death. His range is as wide as biological progress: from the manipulation of our genes, to the injection of learning, to "the freezing of 'dead' bodies for possible earthly resurrection by the even more sophisticated science of the future."

Concerning freezing in particular, credit is given to Ettinger for spurring the movement with his book "The Prospect of Immortality." The suggestion to freeze and store cryogenically for a possible future reactivation is considered to have a valid basis. Rosenfeld considers that most scientists are still skeptical and reserved, but nevertheless the idea has struck "an instantaneous public nerve. There are already branches of the Life Extension Society and allied groups in 10 cities in the U.S. and abroad, dedicated to lobbying and evangelizing for the cause. They have been working hard, and not altogether fruitlessly, to get support for their 'freezer program' from doctors, lawyers, educators, clergymen, politicians and the general public."

It is a long article with much more to say about freezing than can be quoted here, but we will add one of the predictions that "Before long, such a non-funeral (that is, a freezing) is bound to take place."

The author ends his article by suggesting that if science is increasingly giving man control of life and death, it is up to all of us to become knowledgeable, discuss, decide, plan, and create the kind of future and the type of life that we desire and that would be helpful to others.

This article, of course, is a tremendous boost to the freeze-wait idea and to LES. Nearly all of us are very dependent on public approval of our ideas. After such interested and favorable treatment we tend to have more outspoken pride in freezing and less of a lingering defensiveness of a slightly suspect belief.

THE REPORT OF THE REVIVAL OF A CAT BRAIN AFTER 203 DAYS IN THE DEEP-FREEZE GAINS CONFIRMATION

The report last month that the brain of a laboratory animal had been perfused, frozen for six and one half months and revived to the extent of having a good EEG, were almost too good to be true. We feared it might be a hoax or an exaggerated account. For if the report were true it would probably be the most dramatic cryobiological advance since Dr. Audrey Smith froze hamsters to -5°C , stiff as cardboard for an hour, and revived them with long term survival. The report now appears to be true in its rough outline with a confirmation and short report from Prof. Suda. There are some amendments in procedure and many interesting new points. Just a few of these are as follows.

Heparin is injected before cold perfusion is started. Cold perfusion first with low molecular dextran and then with increasing percentages of glycerol is initiated in vivo. A main impression is that the cold per-

-copyright 1965-

fusion is extremely thorough. The basic perfusion is through the blood vessels with this artificial perfusate. But afterward and just before freezing the brain remaining in the cranium is flooded with this same solution. For revival after $6\frac{1}{2}$ months in the deep-freeze, surprisingly the brain is thawed very slowly rather than following the current belief that fast thawing would be preferable.

There will be more on this amazing experiment in our next issues.

LES MEMBERS IN THE NEWSPAPERS, ON THE RADIO AND TV

Prof. L.N. Jensen, LES Coordinator for New Haven, was interviewed for a long and interesting article on freeze-wait-reanimate in the New Haven Register for September 27th.

Reports from E.G. Sibley, LES Coordinator for London, indicate that Brian Gilbert and Gerald Evans were interviewed on TV concerning the freeze-wait idea. Brian Gilbert is a physics student at the University of Manchester and our LES Coordinator for that area. Gerald Evans, from Swansea, has advanced the freezing idea in England, written on it for the British Amateur Scientific Research Association, and written for our newsletter.

Mrs. Judy Walton, wife of Professor E. Wasly Walton has been interviewed by radio WSBC in Greenville, South Carolina and says they were eager for any information about research and the freezing movement. Mrs. Walton has done DMSO tolerance studies on fish and frogs in the frozen and unfrozen states.

Walter Friedman, from New York, reports that he has been on the Brad Crandall broadcast several times discussing the freezing suggestion, mentioning LES and our address, and discussing other ideas such as the importance of international communication and cooperation in these new realms of bio-medical advance.

NEW COORDINATORS

With urging on the part of LES and volunteering on their part, we have new LES Coordinators listed for Berkeley, California; Baltimore; Boston; and Costa Rica in Central America. Art Quaife, at Berkeley, is working on his Ph.D. in mathematical logic. He reports the acquisition of a rapidly growing lion cub, perhaps as a diversion from such fierce study. Right now he is in suspended judgment on whether the lengthening claws and fangs are compatible with life extension. Ted Brown, attending Johns Hopkins University, is LES Coordinator for Baltimore. Ed Randall, attending Boston University, is LES Coordinator for the Boston area. We are also greatly delighted to have the help of Henry Donnat in Central America and were aided in contacting him through the efforts of Marc Collet.

May we also at this time list our desire to contact individuals interested in the freeze-wait-reanimate idea to act as LES Coordinators in Asia, Africa, and South America.

IRON GATE MEETING PAST AND FUTURE A local meeting of LES members and others interested was held at the Iron Gate Inn on October 12th, as usual on the second Tuesday of each month. The primary discussion was the Life article and Dr. Suda's experiments. It was also reported that LES has a second possible cryogenic storage place, very humble but hope-fully adequate for the purpose. This discussion was very noisy because of the downstairs location. At our next meeting we hope to move upstairs to our original meeting room or find a place that is suitable. NEXT IRON GATE MEETING: November 9th, 8pm. 1734 "N" Street Nw. Washington.

LETTERS TO THE EDITORS

Dear Ev,

It amazes me how many people worry about what will happen to their "soul" when they are frozen. Very few people who are educated today in the sciences believe seriously in the soul because there is no need to do so. It is a very ancient myth created by the Brahmins to explain the difference between the living and non-living which they didn't understand at that stage of civilization. We now know that life is a by-product of the universe--that self-replication is a characteristic of the DNA molecule and that memory and thought (once believed to be functions of the soul) are accomplished by the cerebral cortex. So what is the need for continuing this man-made belief of a soul? It is NOT a beautiful idea in our present world although it may have formerly been a good rationalization for helping people to accept death. Today the tradition of believing in the soul serves as a barrier against understanding nature as it really exists and as a haggling point for sophistic questions like "When does it leave the body?" "Which animals have it and which ones don't?" and "Where does it go when people are temporarily dead (before they are revived from drowning, heart attack, surgery, and other cases of rescue from clinical death)?" Continuing belief in the soul is like continuing belief in the emperor's beautiful clothes. THERE IS NO SOUL! When will those who are told to believe in it because of tradition close their eyes to such fairy tales and open their eyes to God's beautiful world? Some people who believe in the soul consider life on earth an abomination to be endured and they postpone their happiness until after death. They are wasting their time--the grass will not be greener six feet under than it is on the earth's surface.

Sincerely,
Judy Evar (Chicago, Ill.)

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BALTIMORE MEETING AND DISCUSSION SCHEDULED FOR JOHNS HOPKINS UNIVERSITY

An informal question, answer, and discussion session has been scheduled for Friday evening, 8:30pm, October 29th, at Gilman Hall, Rm. 304, by our Baltimore LES Coordinator Ted Brown. LES members from Washington will come to help with the session. Anyone who hears of this and would like to come for a discussion of freeze-wait-reanimate will be welcome.

REPORT ON OUR OFFER TO FREEZE THE FIRST PERSON FREE

Our offer is still open. LES offers to freeze the first person who desires it, and who is in need, free of charge, or to the limit of our resources. We also offer to freeze someone who is already dead, for experimental purposes, free of charge. Our aim is to reach the eyes and ears of people everywhere, and show that this can be done. We have had excellent results in contacting people all over the world with this appeal, but no freezings as yet. It has brought in members, coordinators and people who are willing to act as advisors. It has brought in many offers of bodies -but naturally, only after they have died, or at the time of death. It has brought in requests for information and for speakers. It has resulted in newspaper articles and in broadcasts. We hope this offer continues to circulate for the freezings should get started. The resources exist to make a start in almost every portion of the globe. The problem is more a matter of willingness, initiative and some coordination. If the effort isn't made, certainly the person who would like to be frozen when death is inevitable, is surely lost.

PERFUSION, COOLING, AND FREEZING THE HUMAN BODY

It is assumed that the person under consideration has either expressly stated that he wished to be frozen at or after death, or that would have been his express desire.

The general plan is to cool the body thoroughly and evenly as possible both internally and externally. Internal cooling is obtained by pumping a cold perfusate, designed for maximum cellular preservation, through the vascular system.

Either thoracotomy with direct heart cannulation, or the largest possible catheters may be introduced into the superior vena cava and the inferior vena cava via the external jugular and femoral veins. The inflow can be through the femoral and carotid arteries. The type of cannulation is a matter of choice and conditions. The venous blood is drained until the returning perfusate may be recooled and recirculated with benefit. Or, the fresh perfusate may be constantly introduced for maximum effectiveness, until the cells are thoroughly perfused, and circulation is impossible because of freezing.

A type of perfusion similar to this has been performed to obtain organs for homografts.¹ "In clinical use, insertion of the catheters was not done until the patient's death had been verified by the attending physician. In these instances, heparin was added to the perfusate in the amount equal to 3 mg. per kilogram of body weight of the proposed donor."¹ If the time needed to insert the catheters and begin perfusion exceeds five minutes from the time of clinical death, circulation should be maintained by closed-chest or open-chest heart massage as the case may be. A heat exchanger and pump are needed to cool the perfusate and pump it through the body. The rate of flow would probably range from 60 ml. per kilogram per minute, initially, to 5 ml. per kilogram per minute, or less in the lower temperature ranges.¹

The perfusate should be composed for maximum survival with special concern for the brain. Exactly what this may be can only be estimated at present and changed with new information. Most research indicates maximum cell survival in a 10% dimethylsulfoxide (DMSO) medium.²⁻⁵ The mediums used have been homologous serum, physiologic saline, Ringer's solution, etc. A 10 to 15% solution of glycerol has been perhaps second best to DMSO in a wide range of cell freezings, and successful in recent brain preservation experiments.⁶

If selective perfusion and individual attention to each organ and tissue were possible that would be preferred. Here we assume that at present only one general perfusate is practical.

Recently the brain of an experimental animal, a cat, has been perfused with a cold 4% low molecular dextran-Hanks solution and then a gradual addition of an increasing concentration of glycerol (5 to 10% for ten minutes and then 10 to 15% for ten minutes). The internal maxillary arteries were cannulated and the perfusate pumped in with a simple pulsatile perfusion apparatus. After perfusion the brain within the cranium was immersed in this same glycerol solution and placed in a deep-freeze at -20°centigrade. The brain treated and stored in this way for as long as 203 days has been revived with a good EEG and photomicrographs of normal and almost normal cell arrangements. These experiments may be used as a guide, with modifications, for the preservation of the human brain until further research indicates changes. Long term storage appears to indicate lower temperatures.

The time to begin perfusion must be determined by patient and doctor. From the standpoint of experimental results alone, it may well be that the optimum time to begin perfusion is previous to clinical death for

reducing deterioration.

It has been suggested that higher concentrations of DMSO, glycerol, or other cryoprotective agents be used in attempts at the "preservation of whole animals and human beings at cryogenic temperatures." The reasoning is that large tissue masses, under the inevitable variations in freezing rates and at very low temperatures need higher concentrations to reach and protect more distant cells. Scientists in the future will have little trouble washing out these concentrations. Today, protection of the cells is foremost. Thus it seems reasonable that the perfusate should be as high as 50%, or higher, of the cryoprotective agent chosen.

Perfusion would preferably take place in conjunction with external cooling via any number or a combination of methods such as: cold water, ice, dry ice, freezing solutions, a deep-freeze, or the gradual introduction of liquid nitrogen. Whatever combination is possible should be used to lower the temperature as evenly as possible at a rate of 1°C per minute to -50°C , and then reduce to -195°C with liquid nitrogen.

With procedures not established as yet, approximations, substitutions and improvisations will be necessary. Therefore, this must be considered most tentative with changes to be made as research findings and clinical use indicates.

EMERGENCY SUGGESTIONS:

The perfusion, cooling, and freezing should be done in a hospital under most carefully controlled scientific conditions. Unfortunately most deaths occur under less than ideal conditions and often far from hospitals. In an emergency take advantage of any substances and devices for producing cold. Take advantage of any reasonable method to introduce DMSO or glycerol into the body, especially the brain.

Cold water in a tub may begin the cooling and perfusion processes. Salt and ice, or alcohol and dry ice may be used as a freezing mixture. A CO_2 extinguisher is a source of cold as is a refrigerator. Dry ice can often be obtained rather quickly in large cities. The addition of closed-chest cardiac massage, artificial respiration, and perfusion would be desired as the body is cooling if possible. Gravity perfusion as with a transfusion is an alternative to a heart-lung machine or a heart pump.

For the actual freezing, the body may be wrapped in alternate layers of sheets and dry ice with the outer layers of blankets, newspapers, or/and cotton swathing for insulation. Dry ice can be replaced as needed until deeper freezing becomes available.

Freezing somehow should not be neglected just because conditions are not perfect, because these procedures seem crude and unusual, or because perfusion cannot be accomplished. Even an imperfect freezing might provide some remote chance of a future survival. At least the possibility cannot be dogmatically ruled out.

References and notes:

1. Marchioro, T.L. et al. Extracorporeal perfusion for obtaining post-mortem homographs. Surgery 54:900 (December) 1963.
2. Bloch, J.H. Preservative solutions for the freezing of whole organs in vitro. Federation Proceedings, Vol. 22, No. 2, Part 1, March-April 1963, #59.
3. Lehr, H.E. et al. Permanent survival of frozen rat skin autografts. Federation Proceedings. Vol. 22, No. 2, Part 1, March-April 1963, #382.

4. Sherman, J.K. Dimethyl sulfoxide as a protective agent during freezing and thawing of human spermatazoa. Federation Proceedings, Vol. 23, No. 2, Part I, March-April 1964, #1566.
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 6. An outline of a report of Prof. Isamu Suda to the 23rd International Physiological Congress at Tokyo, 1965, in a personal communication.
 7. Huggins, C.E. Federation Proceedings Part III, March-April 1965.
 8. Johnstone, F.R.C. The American Surgeon, 30:380, (December) 1964.
- Note on storage: There is no special mystique to cryogenic storage. The problem is to keep the temperature low. For long periods there are considerations of least-cost with safety from disturbance and thawing. On an emergency or short term basis inexpensive polyurethane or polystyrene insulated wooden or plastic containers, etc., will keep the temperature down with sufficient liquid nitrogen, for example. The initially more expensive vacuum thermos types of metal containers will use less liquid nitrogen and would probably be less expensive and safer in the long run. One would expect an evolution from single unit storage to multi-unit cryogenic storage centers, and a movement of storage from locations of possible disturbance to locations of maximum long-run safety, such as Antarctica conceivably, in the more distant future.

(EC) October 1965

For further information, or for suggesting changes, write: Life Extension Society, 2011 "N" Street N.W., Washington, D.C. 20036

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WHAT IS THE LIFE EXTENSION SOCIETY?

LES is an incorporated, nonprofit, international, scientific and service oriented society dedicated to accurate scientific information, research, and the extension of human life, especially through cryogenic means. Our central concern is the welfare of the individual in obtaining freezing if he desires it, and his safety during cryogenic suspension.

APPEAL TO DOCTORS

Our appeal to doctors continues. We are most interested in locating competent doctors, anywhere on earth, who are willing to perfuse and freeze those persons who opt for freezing and who are faced with death.

NOTE OF PERFUSION SUGGESTION FROM DR. EMILE LECLERC OF NANCY, FRANCE

Dr. Leclerc wonders if it might not be possible, in the event of an emergency death, and in the event no doctor were available, to perfuse DMSO orally and anally. First, heparin, the anticoagulant, could be introduced orally with DMSO. DMSO is known as an excellent vehicle or carrier of many drugs. Its superior penetrating power would probably make it preferred over other presently known cryoprotective agents in an emergency perfusion of this type. Second, DMSO, or a DMSO solution, could be introduced rectally at about 10° centigrade in an attempt to reach and protect as many organs and tissues as possible by emergency methods.

Dr. Leclerc is in general medicine and is working with Marc Collet forming an LES branch in France. Naturally, we are profoundly grateful for the support, suggestions, and efforts.

LES SPEAKERS AVAILABLE ON THE FREEZE-WAIT IDEA

If your university, organization, or broadcast station, etc., would be interested in learning of and exchanging ideas on freeze-wait-reanimate, write or call LES or Coordinators and members in your area.

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LES MEMBERSHIP: Now 290. SEPT.MAIL: 181 in 266 out, 600 newsletters.

AN INVITATION TO:THE THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCEWASHINGTON, D.C.SATURDAY, JANUARY 1, 1966

9:30am-4pm

Carrying on a long and venerable two year tradition we will hold our third winter conference on the freeze-wait-reanimate hypothesis. This hypothesis claims that if a person is properly frozen at death and cryogenically stored it may be possible for science to reactivate him for an extended life sometime in the future. Cryogenic suspension, then, is a stopgap device for holding the person in complete stasis until aging control becomes practical.

The freeze-wait idea has been gaining both scientific and popular support recently. In the laboratory this year scientists have found that the brain of a cat can be frozen for over six months and restored to activity. Popular recognition came in a Life magazine article, Oct. 1st. The author, Albert Rosenfeld, agrees the freezing proposals "do have a valid basis." He goes on to say we have a vast personal stake in the current biological revolution. We should plan, discuss, and create the type of future we want.

Anyone from anyplace on the planet will be welcome. Though this invitation will go to all countries, as it did for the previous conferences, do not expect a large elaborate conference. As far as we know at present it will be a relatively small gathering to exchange ideas, information, and plan for the next year and the future as best we may. If it is easy for you to get to Washington, let us urge you to come. But don't come if it means wasting your resources and almost killing yourself to get here. Let us urge the representatives of health of each country to attend for theoretically the life of almost every person might be extended by freeze-wait-reanimate.

The conference will consist of speeches, papers, luncheon, and discussion as usual. R.C.W. Ettinger will be on hand to present his latest thoughts, information, and suggestions. Sunday will be open to further informal discussions and visiting as desired.

The conference is open to short papers on any topic relevant to freeze-wait-reanimate. Inform us of what you have.

The conference committee is composed of Peg Howard, Leo Orso, and Peter Kline.

The cost is expected to be the same as last year, three dollars. The conference will be held at the same location as last year, Marty Laffal's, two blocks northwest of the White House. Send a check or money order for three dollars for your reservation to: Life Extension Society, 2011 "N" Street N.W., Washington, D.C. 20036

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or, try (301)277-0246
Baltimore		Wm T. Brown, 6 W. Highfield Rd.
Berkeley	(415)658-7390	Art Quaife.
Boston		Ed Randall, 41 Kent St., Quincy.
Costa Rica, San Jose ..	28.58	Henry Donnat.
Detroit area	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc Collot, Rosieres-Aux-Salines, Meurthe et Moselle.
Hull, England	48114 Hull	Alan Worsley.
London, England	BEC 3290	E.G. Sibley.
Los Angeles	(213)340-1949	Tom Tierney.
Manchester, Eng.	CEN 5601/2	Brian Gilbert.
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh.
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen.
New York City	(212)939-1364	Michael Hart.
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton.
Tacoma, Washington	(206)383-5495	Franklyn McDaniel.
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt.
Waco, Texas	(817)PR238027	Mr or Mrs E.D. Ellis.

MEMBERSHIP AND SUBSCRIPTIONS

Student.....\$1 (Also for those with an unfavorable rate of exchange.)
 Regular.....\$2 (The newsletter goes with all memberships.)
 Contributing member...\$5 or more. Life member...\$100. If a subscription alone is desired it is \$2 for the year. Check is preferred, made out to LES or the Life Extension Society, and indicate what you wish. For checks or currencies from other lands add enough for collection or exchange charges.

FOR FURTHER INFORMATION Write to us. We would be most interested in hearing from you and would try to answer any questions you might have.

Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C. USA
 20036

-international- -scientific- -nonprofit- -incorporated for service-

- ☐ I accept the LES invitation to receive the monthly FREEZE-WAIT-REANIMATE newsletter; \$2 per year. (Students, or those with an unfavorable rate of exchange; \$1)
- ☐ I am in general agreement with LES aims and methods (nonprofit, scientific, international, incorporated for service) and accept LES membership. (No additional cost.)
- ☐ You have my permission to list my name and address with the LES Coordinator in my area.
- ☐ You have my permission to list my name or name and address in LES publications. (This is usually for news items or letters to the editors.)

Address _____ Signed _____

Check only those squares you really feel like checking. We respect your privacy if you wish it. If convenient, a check is preferred, made out to the Life Extension Society.

Life Extension Society
2011 "N" Street Nw.
Washington, D.C.
20036

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- ☐ I accept the invitation to the Third Annual Freeze-Wait-Reanimate Conference in Washington, D.C., Marty Laffal's Saturday, January 1, 1966. 9:30am to 4pm

- ☐ Number of reservations (\$3.00 per person)* check preferred, made out to the Life Extension Society.

Amount enclosed _____

Name _____

Address _____

(This conference and the Life Extension Society are both nonprofit.)

*The cost of the conference includes the luncheon.

-International- -Scientific- -Nonprofit- -Incorporated for Service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

A LIQUID NITROGEN CRYOGENIC STORAGE CAPSULE, FOR TWO HUMANS, SCHEDULED FOR DISPLAY AT LES THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE.

Would you like to see what your future resting place might look like? A ten by three by four foot cryogenic capsule is scheduled to be on display at the Life Extension Society's January 1st conference in Washington. The cryocapsule is essentially a giant stainless steel thermos. One container lies within the other with both vacuum and other insulation between the inner and outer walls.

The temperature of the person in cryogenic suspension will be about -190° C, that of the refrigerant, liquid nitrogen. Needless to say, a person will not be in the suspension chamber, as far as we know, but an experimental animal will be, and in the frozen condition. The inner chamber is capable of holding either one or two persons.

Every 40 weeks the capsule is expected to need refilling with liquid nitrogen. Replacing the liquid nitrogen is estimated to cost \$50 per person per year. The weight (900+ pounds) and the cost (\$3200) are high at present. Both are expected to be lower in the future.

This information comes from E. Francis Hope, President of Cryo-Care, Inc. (a cryogenic equipment company), Phoenix, Arizona. He informs us that the cryocapsule will be here, barring accidents or some other unexpected mishap. If so, this will be a great stride forward from our present emergency freezing containers to devices for more long-term efficient storage. Also, this will make it a more interesting conference for those who have already registered from as far away as California.

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NEWS FROM ENGLAND: GERALD EVANS REPORTS OF LES ON BRITISH TV

I am delighted to report that LES has taken a big step forward in this country. On Friday 15th., October 1965, a quarter of an hour in the TV programme "In the News" was devoted to our organisation. Brian Gilbert and myself were on it as LES members. The transmission area covers all South Wales, South West England and about 60 miles eastwards toward London. It is estimated that the viewing audience at the time was around about 5,000,000. The producer, Mr. John Mead of TWW (Television Wales and the West) welcomed my suggestion of displaying a "Freeze card" on the screen as part of the introduction.

LES was given a good dignified build up, and although the film of a refrigeration plant of an ice cream concern was used to suggest the deep freeze containers of tomorrow on endless belt manufacture, it did not jar. The commentator was sincere.

A Professor of Sociology, University of Wales, was supposed to

-copyright 1965-

(continued)

talk the idea out, but when Brian and I finished with him in our nine minute discussion, he seemed almost ready for a LES membership form.

The programme was video-taped at 10. p.m. and went out on TV at 10.55.p.m. Brian and I, watched ourselves on a TV screen in the Conference room during the transmission. I am sending a tape recording of this, the first ever, television programme in Britain devoted to LES. Some of the high lights may be appropriate for publication. The reaction of this transmission has been remarkable amongst people I have met in Swansea. They carry a thoughtful look, and I think they realise that at last death is being challenged.

A big hand for Brian. He is only nineteen, but he was fearless - and good on the transmission. Thanks too, to Mr. E.G. Sibley for giving TWW my name, and thus the opportunity to speak about LES to millions of people.

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LES TIGER MEETS CLEMSON TIGER. BOTH GET ALONG FAMOUSLY TOGETHER

Professor E. Wesley Walton of Converse College, secretary of the Life Extension Society, spoke on "Freezing and Reanimation of the Human Body" at Clemson University, November 5th. If the South has been hostile to new ideas in the past, it certainly wasn't true in this instance at Clemson. Professor Walton and his wife, Mrs. Judie Walton, report that the reception was tremendous. After the meeting adjourned so many people remained that it was called to order again for a question and answer session. Professor Walton was reported in the Clemson "Tiger" as stating, "It's the most important development of the century - or of all time. If our generation doesn't do it, the next will."

(Professor Walton also has an article on emergency perfusion and freezing on page 5 following.)

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EUROPEAN NEWS, AS REPORTED MAINLY BY MARG COLLET.

Interest continues to grow on the Continent. Dr. Leclerc accepts that his name and telephone number should be listed in the newsletter. (See Coordinator's page.) This is grand news for he is the first medical doctor who has consented to do so.

Madame Jeanne-Marie Darblay wrote a moderately long article for "Le Progres" of Lyon, September 30th, complete with a reproduction of our LES freezing card in French.

Salvador Dali has spoken of the freezing idea on German TV. He hopes to be frozen, he says, when someone has found the means of reanimation. At various spaced periods he wishes to be awakened "in order to stay informed, etc." Can't you just see Salvador Dali, with that mustache, slowly arise out of the freezer in one of his periodic awakenings?

Inquiries for information have come in from Poland and Czechoslovakia.

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LES MEETING AT JOHNS HOPKINS UNIVERSITY VERY PRODUCTIVE, WELL RECEIVED.

Ted Brown, studying at Johns Hopkins, and LES Coordinator for Baltimore, scheduled an LES meeting in a large seminar room, notified the university newspaper, put up posters, and asked someone from Washington to be there October 29th. Slightly stunned at such speed and efficiency, Ev Cooper gladly drove to Baltimore and gave a one half

hour summary of the hypothesis and latest research findings. The next hour to hour and one half brought forth some very penetrating questions and also some excellent suggestions. Most were medical and science students and wanted references for all research results.

One doctor questioned our previous assumption that the person should be declared dead before freezing. Given human nature and our institutions, he suggested that the frozen person would get better treatment if he were not declared dead when frozen. Perhaps a category as "suspended" or "suspended life" might allow the person frozen the protection of the law and customs afforded the living or the hospitalized.

Among the 25 or 30 persons attending there were frequent strong recommendations for increased research. One person, a doctor, volunteered, time permitting, to run an experiment that he considered might be critical.

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RESEARCH NOTES (AND RUMORS)

1. IS IT POSSIBLE THAT A RAT HAS SURVIVED FREEZING TO -200° C.?

Two months ago we reported that Prof. Suda of Keio had perfused, frozen, stored for $6\frac{1}{2}$ months, and revived the brain of a cat. At the time we thought this too good to be true. But continuing reports indicate that it is true. Now a correspondent from London writes to us that unless his eyes deceive him he has read information that is vitally important for LES. He quotes the New Scientist, 4 November 1965, page 320. "The inactivity of bodily functions would also normally presuppose death. But Dr. Schneider calls this in doubt by referring to low temperature biology: a rat frozen to -200° C. can be unfrozen with no ill effects." Even if the eyes didn't deceive, isn't this too great an advance, too deep a temperature, to expect as yet? Rats have been lowered to -2° C and this establishes the principle. But -200° C? Surely the typographer must have been unusually liberal with his zeros?

2. FIRST SUCCESSFUL REPLANTATION OF A DEEP FROZEN ORGAN.

Blood, isolated cells, and tissue can be frozen, stored, and thawed when needed. To what extent this can be done with whole organs is a matter of degree and dispute. Dr. H.B. Barner of Rochester University now reports that he has removed the spleens of dogs, perfused them, held them in a deep-freeze for as long as five days, reattached them after thawing, and the spleens remained viable up to four months.

Vascular block has been the main obstacle in the past to the viability of frozen organs. In Dr. Barner's experiment the excised spleen of each dog was perfused with a solution of DMSO and dextran. After perfusion the spleens were frozen to -60° C and stored in the deep-freeze. They were thawed in warm water before reattaching to the dog. Not all of the spleens of the 29 dogs remained viable. But enough remained active to enable Dr. Barner to claim this as the first successful replantation of a deep-frozen whole organ.

The report was given before the American College of Surgeons at Atlantic City, and reported in Medical World News, Oct. 29, 1965, p. 33.

3. A MAN'S HEART SURVIVES THE MAN BY SIX HOURS

The complexity and relativity of death was amply illustrated in an unusual operation at the University of Amsterdam last January. It was the climax of 10 years of research in removing the hearts of animals, from rats to dogs, to better understand the abnormalities of

the human heart. A man of 70 years died near midnight. Permission was given by a relative for the operation. The heart was removed, perfused with nutrient fluid, and began beating again because the previous burdens while in the body had been removed to some extent. This return to life was true for the heart even though the man had died from a massive heart attack. The heart continued beating until after dawn when the researchers, overcome with exhaustion, discontinued the experiment and stopped its beat.

This report was given by Drs. Durrer and Meijler before the American Heart Association's meeting at Bal Harbour, Florida, and reported October 18th in such newspapers as the Los Angeles Times and the Wall Street Journal.

4. FDA PUTS DAMPER ON OVERLY POPULAR DMSO

Recently the Federal Drug Administration of the United States requested the suspension of DMSO (dimethylsulfoxide) in clinical trials (not in research). Over 20,000 patients were being treated in the U.S. alone. No adverse effects in humans were reported. However, changes in the refractive index of animals exposed to the drug have been reported. Harold M. Schmeck, Jr., of the New York Times reports: "No similar changes in human eyes have been reported by the scientists studying DMSO's use in man, nor is it entirely clear that the changes seen in the animals represent adverse effects... One of the scientists who have been prominent in testing DMSO's potential in man expressed disappointment yesterday over the halt in testing.

"He said he believed it might legally be possible to continue using the drug for certain patients suffering serious diseases that had responded well to the compound.

"Another scientist said he believed the growing and widespread use of the compound by individuals treating themselves with DMSO without medical supervision was probably a factor in the drug agency's decision."
(The New York Times, November 12, 1965, page 49.)

SCIENTIST DIES WHO DESIRED FREEZING. FAMILY DECIDES AGAINST IT

An idea man and scientist for one of the largest research companies died of a sudden heart attack three weeks ago. He had previously expressed his wish to be frozen to his co-workers and his family. He had even written of the feasibility of freezing. Our records indicate that he was sent newsletter #16, an information sheet, and a subscription-membership form in September. This was at the suggestion of one of our officers who had read some of his comments on freezing. As Bob Ettinger indicates, in a letter that follows, the family decided against freezing. If the scientist who died had a will and a freeze-card specifically stating that he desired to be frozen in the event of death, it might have been a story of suspension at least instead of oblivion.

FREEZE CARDS AVAILABLE

If you are an LES member or subscriber you should receive a freeze card and a duplicate with this newsletter. Over 60 persons have their freeze-cards filled in and on file with LES. French speaking members will get, or have gotten, their cards from Marc Collet. If you already have your card filled and sent in, perhaps you can pass these cards on to someone interested.

If you haven't sent your card in, let us urge you to do so. However, let us also stress that this is entirely voluntary. Fill them out when you wish, if you wish, and as you wish. Willing doctors being difficult to locate, you may leave that space vacant for the time being. If you wish to have your desire respected, have it in writing.

IF I COLLAPSED TODAY, AND STOPPED BREATHING, WHAT SHOULD MY FAMILY DO?

By Professor E. Wesley Walton

Because memories and thoughts are stored in the brain, it is of prime importance that this organ be in the best possible condition for maximum chance of future revival. The brain should be without circulating oxygen for no longer than 6-8 minutes (although cases have been recorded where individuals have regained consciousness after longer periods); if for some reason the brain is deprived of oxygen for a longer period than this, it would probably be worthwhile to carry through the freezing operation regardless, rather than to abandon it, in the likely event that science will learn how to cope with oxygen-deprived brain cells. We must consider that scientific discoveries are made in a geometrical progression (1, 2, 4, 16, 256, etc.) rather than on a linear basis (1, 2, 3, 4, 5) and that much of our scientific knowledge has been accumulated in the last few decades.

The family, or whoever is present, should administer first-aid, including artificial respiration, and the doctor notified immediately; or he should be taken to the hospital as would ordinarily be done. If pronounced clinically dead, THE VICTIM SHOULD BE HOOKED UP TO THE HEART-LUNG MACHINE AS SOON AS POSSIBLE TO MAINTAIN CIRCULATION TO THE VITAL ORGANS. The freezing procedure is comparable to the surgical procedure of hypothermia* except the body temperature should be continued to be lowered with cold packs, and eventually with dry ice. Before a freezing temperature is attained, the whole blood should be replaced by a transfusion of blood plasma (the liquid portion of the blood), with a cellular protective agent like dimethylsulfoxide or with glycerin--these behave as anti-freeze in living tissues to reduce ice crystal formation that is undesirable--and heparin to prevent clotting.

When the body temperature is lowered to liquid nitrogen temperatures, virtually all of its metabolic activity ceases and the individual is essentially in a state of suspended animation. Invertebrates and human tissues have been frozen, stored in this state for long periods of time, and have been successfully restored to normality upon thawing.

Speed is essential to this procedure. However, there are at least two times when pauses can be made for assembling equipment and making decisions about details of the operation: 1) after the patient is on heart-lung machine; and 2) when the patient is in the hypothermic state. At the latter stage he can be maintained for a considerable number of days, if necessary. Once the freezing procedure is begun--and the temperature is below normal hypothermic temperatures--it should be continued, gradually to avoid uneven cooling, but as quickly as possible. When the temperature is as low as can be attained on the operating table, the person should be transferred to a container capable of holding a liquid nitrogen refrigerant which is designed for such a purpose.

*Hypothermia--modern low-temperature surgical method especially used in open-heart and other lengthy operations by which the body temperature is reduced to sub-normal, but above freezing levels.

LETTERS

To LES Members:

Interest in cryogenic interment continues to grow, with a steady stream of speaking and writing invitations and initiatives. For example Mr. Robert A. Hauke, a funeral director of Coplay, Pa., has been giving

(continued)

talks on the subject to civic groups, and many people have written letters to newspapers and magazines. My last article was in THE CHRISTIAN CENTURY (Oct. 27), and others are coming up, including one for a hospital management journal and one for a national magazine.

But organization still lags, with tragic results. Recently a rather well-known scientist died in early middle age; he had read THE PROSPECT OF IMMORTALITY, and announced his intention to be frozen, but had made no definite arrangements. An associate called me after he died to ask advice, but because of the lack of planning the family decided not to freeze him. Some LES members are in a similar situation; at the very least, they should immediately state in their wills, with copies of the statement to relatives, attorney, and physician, that they want to be frozen at death regardless of how unfavorable the circumstances may appear; and set aside a sum of money to be used for no other purpose--let it go to cryobiological research if your wishes are disregarded, or to LES specifically.

It is essential not to wait until routine facilities are available and all questions answered; do what you can right now, even though it may be inadequate. If others in the family disagree and begrudge the money, then at least set aside ordinary funeral costs for freezing, and hope that LES and others will pick up the rest of the tab, as they probably will. Do it now; if you wait one day too long, the maggots will not be interested in your explanations.

Specially prepared forms for wills and trust agreements will probably be available soon, as well as reduced rate group life insurance, but don't wait for these. You should have extra life insurance (term insurance) earmarked for this purpose; when the cheaper group insurance is ready, you can switch. Let LES know you have made these preparations; this information will prove the existence of a market and spur business cooperation.

Several more physicians in the Detroit area have shown interest, and a cemetery here has offered to sell land; I am looking into this offer, and related matters. If it appears feasible to build a small cryogenic storage installation here at a reasonable price, would LES members want to support this effort, on either a profit or nonprofit basis? It could be done, I believe, for a mere \$100 per member. Please write to me, or Ev Cooper, or both.

There has been too much chicken-and-egg nonsense; the business and professional people want assurance of demand before they supply the services, and the customers want assurance of supply before they assert the demand. Let's get off the dime!

R.C.W. Ettinger
(24041 Stratford, Oak Park, Michigan 48237)

Dear Ev,

I enjoyed the article in Life magazine. (Oct 1, 1965, pp. 94-111)

People shouldn't become frightened about the possibilities as we still have a choice in the matter of making the world as we would like it.

Some suggest the possibility of eventually creating machines smarter than humans and thereby causing the finis of humans. This is a childish suggestion. Humans are more intelligent than almost all other forms of life and the other forms still exist. In fact things like bacteria and whatever causes cancer have intelligence of about nothing and in many instances more than hold their own against humans.

Sincerely yours,
Thaddeus

LETTERS continued

Gentlemen,

The dramatic changes in the conditions of human existence unleashed in the past four centuries by the advances of the physical sciences will pale to insignificance in the brilliant light of the radical changes in the state of humanity soon to be unleashed by closely upcoming advances in the biological sciences. These will affect man in the most direct manner, whereas past changes have been able to affect man only through his environment... In the next five centuries he will revolutionize himself. All great changes frighten the ignorant. They need a push from the farsighted.

Yours Sincerely

Bernard Galitz (Wellesley, Mass.)

(Note: The following letter is not from an LES member or subscriber, but in response to one who is. This fragment was then passed on to the editor.

Dear _____,

I think now that freezing would be much more desirable than the indignities of embalming and the horrors of slow decay in a grave, even if the reanimation part weren't successful (it could be, of course). But perpetual service re freezing would be, at most, problematical.

I have been reading about how some growth brought back from space exploration could wipe out most or all life on Earth.

Cheers.

H.C.C.

* * *

BROCHURE READY AT LAST: After what seemed a fantastic amount of time and effort, in order to not lose our entire bank account in the expense, the LES brochure is available. You should find one enclosed. It comes in two weights of paper and in three colors.

MEMBERSHIP AND SUBSCRIPTIONS: Now over 325.

MAIL: 163 pieces in and 25⁰ out. NEWSLETTERS 600 printed. Most gone. This is mail for October and exclusive of the 417 newsletters in the first mailing on October 23rd.

NEW COORDINATORS: New LES Coordinators are listed for Nancy, South Bend, St. Louis, and Swansea. Respectively we would like to express our thanks to Dr. Leclerc, Eli Spicer (a veritable whirlwind in gathering in new members), Mr. and Mrs. E.D. Ellis, and Gerald Evans.

ELECTIONS: We are in the process of devising the mechanics (presumably by mail) so that members can vote for officers of LES no matter where the member lives. A nominating committee will be appointed. Meanwhile suggestions of any kind are welcomed.

OFFICERS: We have been asked if the officers receive salaries/^{now} intend to in the future? The answer is an unequivocal "No." The officers receive no salaries or money whatsoever, nor do they intend to vote themselves salaries in the future.

NEXT IRON GATE MEETING: December 13, 1965, 8pm, upstairs at 1734 "N" St. N.W., Washington, D.C. Come, bring your ideas. You will be welcome.

LES STILL OFFERS to freeze the first person in need, free of charge, or up to the limit of our resources.

SPEAKERS ARE AVAILABLE: Call your nearest LES Coordinator, or write to LES Washington.

GOOD HUMOR IN FREEZING: See The Realist #63, October 1965. Cartoons.

INFORMATION AND HELP

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LES Washington	(202)723-5397	Ev Cooper. Or, try (301)277-0246
Baltimore	(301)235-4949	William T. Brown.
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall, 41 Kent St., Quincy.
Costa Rica, San Jose ..	28.58	Henry Donnat.
Detroit area	(313)543-2615	Bob Ettinger. Also (313)LI6-4012
France		Marc Collet, Rucieres-Aux-Salines
		Meurthe et Moselle.
Hull, England	48114 Hull	Alan Worsley.
London, England	BEC 3290	E.G. Sibley.
Los Angeles	(213)340-1949	Tom Tierney.
Manchester, Eng.	CEN 5601/2	Brian Gilbert.
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh.
Nancy, France	53-50-30	Dr. Emile Leclerc.
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen.
New York City	(212)939-1364	Michael Hart.
South Bend, Ind.	(Tel. book)	Eli Spicer.
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton.
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis.
Swansea, G.B.	5C989	Gerald Evans.
Tacoma, Washington	(206)383-5495	Franklyn McDaniel.
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt.

MEMBERSHIP AND SUBSCRIPTIONS

Student ...\$1 (Also for those with an unfavorable rate of exchange.)
 Regular ...\$2 (The newsletter goes with all memberships.)
 Contributing member ...\$5 or more. Life member...\$100. If a subscription alone is desired it is \$2 for this year. Check is preferred; made out to LES or the Life Extension Society; and indicate what you wish. For checks or currencies from other lands add enough for collection or exchange charges, or use international postal money orders or postal coupons.

FOR FURTHER INFORMATION Write to us. We would be most interested in hearing from you and would try to answer any question you might have.

Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C. USA
 20036

-international- -scientific- -nonprofit- -incorporated for service-
 LATE NOTE: Detroit area meeting of LES members and others interested,
 Monday Nov. 29th. Phone Bob Ettinger, above, for details.

AN INVITATION TO:

THE THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE

WASHINGTON, D.C.

SATURDAY, JANUARY 1, 1966

9:30am-4pm

Carrying on a long and venerable two year tradition we will hold our third winter conference on the freeze-wait-reanimate hypothesis. This hypothesis claims that if a person is properly frozen at death and cryogenically stored it may be possible for science to reactivate him for an extended life sometime in the future. Cryogenic suspension, then, is a stopgap device for holding the person in complete stasis until aging control becomes practical.

The freeze-wait idea has been gaining both scientific and popular support recently. In the laboratory this year scientists have found that the brain of a cat can be frozen for over six months and restored to activity. Popular recognition came in a Life magazine article, Oct. 1st. The author, Albert Rosenfeld, agrees the freezing proposals "do have a valid basis." He goes on to say we have a vast personal stake in the current biological revolution. We should plan, discuss, and create the type of future we want.

Anyone from anyplace on the planet will be welcome. Though this invitation will go to all countries, as it did for the previous conferences, do not expect a large elaborate conference. As far as we know at present it will be a relatively small gathering to exchange ideas, information, and plan for the next year and the future as best we may. If it is easy for you to get to Washington, let us urge you to come. But don't come if it means wasting your resources and almost killing yourself to get here. Let us urge the representatives of health of each country to attend for theoretically the life of almost every person might be extended by freeze-wait-reanimate.

The conference will consist of speeches, papers, luncheon, and discussion as usual. R.C.W. Ettinger will be on hand to present his latest thoughts, information, and suggestions. Sunday will be open to further informal discussions and visiting as desired.

The conference is open to short papers on any topic relevant to freeze-wait-reanimate. Inform us of what you have.

We have been promised that a new liquid nitrogen cryogenic suspension capsule, capable of holding one or two persons, will be on display at the conference.

The cost is expected to be the same as last year, three dollars. The conference will be held at the same location as last year, Marty Laffal's, two blocks northwest of the White House. Send a check or money order for three dollars for your reservation to: Life Extension Society, 2011 "N" Street N.W., Washington, D.C. 20036

PLEASE POST OR PUBLISH NOTICE OF

- ☐ I accept the LES invitation to receive the monthly FREEZE-WAIT-REANIMATE newsletter; \$2 per year. (Students, or those with an unfavorable rate of exchange; \$1)
- ☐ I am in general agreement with LES aims and methods (nonprofit, scientific, international, incorporated for service) and accept LES membership. (No additional cost.)
- ☐ You have my permission to list my name and address with the LES Coordinator in my area.
- ☐ You have my permission to list my name or name and address in LES publications. (This is usually for news items or letters to the editors.)

Signed _____
Address _____

Check only those squares you really feel like checking. We respect your privacy if you wish it. If convenient, a check is preferred, made out to the Life Extension Society.

Life Extension Society
2011 "N" Street NW.
Washington, D.C.
20036

-
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- ☐ Number of reservations (\$3.00 per person)* check preferred, made out to the Life Extension Society.
Amount enclosed _____

Name _____

Address _____

(This conference and the Life Extension Society are both nonprofit.)

*The cost of the conference includes the luncheon.

-International- -Scientific- -Nonprofit- -Incorporated for Service-

Vol 2, No. 19
December 1965



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

LOOKING BACK OVER THE FIRST SEVEN MILLENIA AND 1965

Man has always been concerned with death. This means he has always wanted to extend life. It is only natural that his concern with life and death shaped all his philosophy and institutions.

Along with man's attack on death, he has desired to transmute metals, fly through the air, communicate "instantaneously" at a distance, and rocket to other planets. Progress has been so fast that not everyone knows that metals have been transmuted into other metals. Man's other goals have been won except rocket travel which is in the process of being won.

These achievements reinforce that aging-control or the indefinite extension of life is possible. Since aging-control is not a fact right now, freezing is suggested as a stop-gap device to get the dying or dead into the future when they may be reactivated to live again.

To get the freeze-wait-reanimate idea into its initial stages of operation books have been written. The Life Extension Society has been formed and in operation for several years. Articles, letters, flyers, and newsletters, almost too many to count, have been written. A host of radio, TV, and speaking appearances have been made. Meetings, and conferences have been held. LES looks forward to its Third Annual Freeze-Wait-Reanimate Conference, January 1, 1966. (Do come. You will be welcome.) Membership has doubled several times during the year.

Thankful as we are for all our success to date, we have not achieved one of our goals. That is to have at least one person in cryogenic suspension, or at least one body experimentally frozen. (Our appeal continues to go out to you if you might be able to help us in this.) Not to have freezing in physical operation sometime in 1966 is unthinkable.

The most certain fact of all is that such growth as it is could not have been made without the help of so many of you both within and without LES. We stand in awe of the great number of you who have volunteered and aided us on your own initiative. Truly we have experienced spontaneous cooperation. All we can think of is to apologise for all we should have done here at headquarters, thank you for all that you have done, WISH YOU THE MERRIEST OF SEASONS GREETINGS, shout Forward! Excelsior! Eureka! (and all that) and leave you with endless best warmest regards for the New Year.

-copyright 1965-

ALL ABOUT THOSE FREEZE-CARDS, AND A WORD ABOUT YOUR WILL

Presently or previously you may have received several "freeze-cards" from the Life Extension Society. We merely wish to make these cards available to you. We in LES are enthusiastic over the idea and hope that you will use these cards. However, we wish to make very clear that you are under no obligation to use them. Such a decision is naturally up to each person and we should like it that you feel perfectly comfortable using or not using the cards, or using them any time in the future.

You should have received two cards. Both are printed on two sides. One has the additional words "DUPLICATE: Fill in, return to LES," across the top of one side. If you do decide to fill in the cards, and return this one to LES, it will be filed as a record of your intention to be frozen in the event of your death.

We fully realize the feelings of hesitancy on the part of some of you to inform your doctor or friends of your decision to be frozen. In the early stages of the movement it does take courage to break away from old customs. It will probably increase your chances many fold, however, if you do make arrangements with a willing doctor, and inform those around you of your intention.

As of late 1965 a willing and competent doctor was indeed difficult to locate. A very few LES members had personal doctors who agreed to freeze them in the event of a fatal accident. If you do not have such a doctor it is suggested that you phone, write, or send form letters to whatever number of doctors necessary until you find one willing and acceptable to you. You can also follow our newsletter for information on available doctors.

If you are unable, for whatever reason, to locate a doctor as above, it is true that some alternative is better than nothing. You can merely list your doctor on the freeze-cards and pray that he is able to survive the shock and meet the challenge of freezing you if you should meet with an irremediable accident in the near future.

If you don't even have a doctor to list at present, and yet you do wish to be registered as wishing to be frozen, you can leave the space for the doctor's name empty for the time being. Gather witnesses to your signature - a notary public is excellent for this purpose - fill in the cards as best you can and send the duplicate to LES. Anything you can do to record in writing and make known your intention to be frozen will increase your chance of future life.

LES also makes will forms available that have been especially adapted for freezing and cryobiological suspension. We hope these will be taken in the same spirit as the freeze-cards. They are not the last word. They are merely the best that we know of at present. One of these forms may be used as is or the portion on freezing may be incorporated in a more detailed and personalized will.

If you intend to be frozen, may we urge you to make out some type of will without further delay. The delay in not making out any type of will may be more dangerous to your preservation than the specific form. Changes can be made when needed and when convenient. Extra copies of forms as well as freeze-cards are available from LES. It is wise to have copies for your doctor, lawyer and family or friends.

LAST WILL AND TESTAMENT

I, _____ being of sound mind and memory, but also aware of the uncertainties of this life, do hereby make, publish and declare this to be my last Will and Testament:

I hereby revoke all testamentary instruments heretofore made and executed by me.

I hereby direct that in the event of my death, or the immediate inevitability of my death, that my body be frozen at or near death in the manner that is scientifically considered best for the preservation of the body, with the aim of reanimation or reactivation in the future, and maintained in cryogenic suspension until reanimation is a safe procedure. When reanimation or reactivation become reasonably safe processes I wish to be reanimated or reactivated by the best possible methods at that time.

I hereby instruct my Executor to pay my just debts and expenses, out of my estate, as soon after my freezing as may be practicable.

I hereby instruct that the rest, residue, and remainder of my estate, of whatsoever nature and wherever situated, I give, devise and bequeath to _____.

I hereby nominate, constitute and appoint _____ of _____ to act as my Executor.

Signed _____ address _____ date _____
 Witnessed _____ address _____ date _____
 Witnessed _____ address _____ date _____

LAST WILL AND TESTAMENT

I, _____ being of sound mind and memory, but also aware of the uncertainties of this life, do hereby make, publish and declare this to be my last Will and Testament:

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I hereby nominate, constitute and appoint _____ of _____ to act as my Executor.

Signed _____ address _____ date _____
 Witnessed _____ address _____ date _____
 Witnessed _____ address _____ date _____

SIMILARITIES NOTED BETWEEN KIDNEY DIALYSIS AND THE FREEZING PROGRAM

Several correspondents and LES members have suggested that we note some of the physical, financial, social, and moral problems involved in kidney dialysis. There are some similarities to be observed. The progress in the kidney dialysis program may be instructive and path-breaking, in some respects, for freezing.

In both instances, dialysis and the proposed freezing, the concern is with extending the life of the terminal patient. In each instance if something isn't done the patient is lost. Granted, the freezing proposal is much more futuristic and the time lag might be great before the patient's life might be meaningfully extended.

Under the best of present conditions life-saving machinery is needed and it is presently expensive. Generally this equipment is used in the hospital under expert supervision though there have been some successful attempts to make it more portable and use it in the home under patient and family direction. The hope is that dialysis equipment, just like freezing equipment may be made less expensive in the future.

Both dialysis and the proposed preparation for freezing involve perfusion through the vascular system. In dialysis the state of the art is sufficiently advanced that patients may be easily and simply connected to the perfusion or dialyzing device through plastic tubes which have been permanently implanted in the patient. If this same connection system became feasible for freezing prospects it would greatly facilitate perfusion especially in an emergency.

The technical and mechanical devices, though perhaps not perfection itself as yet, are available. It is up to individuals, organizations, and society to grant that an individual's life is worth extending and to be willing to do something about it. The same is true with freezing.

PROFESSOR L.N. JENSEN LECTURES ON AGING, PROSTHESIS, AND FREEZING.

At Southern Connecticut State College, Professor Jensen gave a lecture recently on the above subjects, following the Life (Oct 1) article on the control of life and death. Freezing was suggested as a stop-gap mechanism, infinitely superior to the grave. The students understood the thesis, responded enthusiastically and asked excellent questions.

LAST IRON GATE MEETING DECEMBER 14TH. Coffee and dessert meeting, Tuesday, 8pm, upstairs, 1734 "N" Street N.W., Washington, D.C. Everyone is welcome. As prices at the inn are being tripled after that date, we will be looking for a new monthly meeting place. Any suggestions?

MAIL AND MAILING DATES FOR THE NEWSLETTER. The regular mailing for the November FWR newsletter was the night of the 20th-21st. This newsletter is scheduled to be mailed late the night of December 4th. November mail, 170 pieces in, 369 out exclusive of 470 newsletters on Nov. 20th-21st.

FACT MAGAZINE HAS ARTICLE ON THE FREEZING IDEA, current issue on stands.

SPEAKERS ARE AVAILABLE: Call your nearest LES Coordinator, or write to LES Washington.

FREEZE AND THAW AD FOUND IN A TEACHER'S MAGAZINE

"Unhappy with life in the 21st Century? Skip it, and try the 22nd. Let us refrigerate you in our beautiful, spacious Freez-Awhile vaults (Underwriters Laboratory guaranteed). Prompt defrosting assured, or money cheerfully refunded to your next of kin. Whileaway, Inc."

LETTERS TO THE EDITOR

Dear Ev,

Some people suggest that we are beginning too soon with freezing, that the humane thing would to wait. Yet how can that thought, useful in ordinary circumstances, when risky operations on fully living patients are projected, possibly apply here? How can you be inhumane to a corpse? We answer, of course, that a corpse is not a corpse but a viable, helpless human at the pit of death. When heartbeat and respiration have ceased, or when there are no longer any brain waves, he, she, father, mother, son, sister, brother, daughter become, by the decision of society, an "it" to be buried. This we say is inhumane. And we say that people, that relatives, that the medical profession, the clergy, at a time when they think things are past deciding, or at a time--if they know about freezing--when they may sense a choice available in the dispensation of the body, who nevertheless avoid it, thinking they are escaping responsibility safely, are, in the face of the latest evidence, rendering a most dreadful decision. They are involved in it. They are deciding that a man has a better hope of surviving rotting to pieces in the grave than in a state of suspended animation.

B. R. Plater

Dear LES,

It is interesting to think how the indefinite extension of human life would effect the economy. First, of course, the undertakers' business would have to be diversified by including the present method of still burying the hopelessly dead while perhaps entering the possibly new growing field of perfusing properly those dying or just dead and then freezing them. However, if the medical profession takes this responsibility then the undertakers' business may one day be very limited.

Of course, the picture is brighter for coffin makers who could concentrate on building storage containers for those frozen. The grave and tombstone business would either switch into the new growing business of storing the frozen or eventually go out of business.

Indefinite life extension would be a boon to life insurance companies who would hardly have to worry about natural death. Surely their rates would have to drop.

As for state and local governments which depend for a nice chunk of inheritance taxes things would look dim. Also I imagine pressure would be put on the government to drastically change legislation regarding social security. Once man can control aging and even perfect rejuvenescence the great majority of people would be eventually on social security.

The birth rate would drop, not only from social pressures to prevent overpopulation but also from the absence of pressures which cause people to have families. There is the desire, conscious or unconscious to have children to replace the older generation as it dies off. In other words, man presently sees his immortality in his own children. The reduced birth rate would undoubtedly effect those businesses and even prosperous economic cycles which depend on increasing new families and children.

(Continued)

The need for more new elementary and new high schools would diminish, but higher education such as the university, colleges, and technical schools could possibly increase 10 or even more times. It is possible that soon more hours will be spent learning than working. In fact, with automation becoming a reality most of our time would be necessarily be spent in learning about the complex world in order to control it. So the fields of electronics, chemistry, drugs, communication, etc., should continue to thrive.

Recreation should also be a big factor and it is quite possible as people live longer, yet stay young that it would be more sophisticated and of a higher caliber.

The Civil Rights movement could fold up and become some interesting history. Once it became scientifically possible for a negro to become white or vice versa while still maintaining his own personality and mental abilities there would no longer be the present barrier.

These are just some of the possibilities. As to how the future will actually be no one can be certain. Man may yet destroy himself, or unforeseen outside causes could destroy us before we get a chance at space exploration. Living is a gamble and will probably always be; even if one could live to be a million years old he would still be gambling with death.

Sincerely yours, Thaddeus.

Dear Mr. Cooper:

I liked the letter from Marc Collet - Palms to him. Much of this is my sentiments too as regards the necessity of saving as much of life as possible if there is some manner in which it can be saved - via freezing and thawing processes. Of course medicine and research is making headway. . . but long it will take to cure many of the illnesses now afflicting mankind and time and space to arrange to have certain individuals frozen (prepared before death sets in) I can't give much credence to the idea of freezing dead bodies. Yes, I agree freezing should be well established by now but it isn't and the "whys" are a part of mankind's absurdity in killing rather than saving. Destruction is so much part of him and only a few (in all ages) have been able to absorb more of the sun's rays as they come pouring through and reflect upon that light.

It is possible but I have a sad feeling that it will not come as you dream of but only the rich will be able to afford a good preparation for freezing under the best medical supervision possible and then a place for the body to remain until such and such a disease has been found to be curable. This will cost much money and even now only the rich can afford the best medical care under the best doctors. The others get what they think is good but which is very far from it. We need to train for this special field of "freezing" and it might be well to offer some sort of scholarship in this field.

Best regards,
M.E. Adler

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5337	Ev Cooper. Or, try (301)277-0246
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall, 41 Kent St., Quincy.
Costa Rica, San Jose ..	28-58	Henry Donnat.
Detroit area	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc Collet; Rosieres-Aux-Salines
		Meurthe et Moselle.
Hull, England	48114 Hull	Alan Worsley.
London, England	BEC 3290	E.G. Sibley.
Los Angeles	(213)340-1949	Tom Tierney.
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Montreal, Canada	484-1591	James Clancy

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- ☐ You have my permission to list my name and address in LES publications. (This is usually for news items or letters to the editors.)

Signed _____

Address _____

Check only those squares you really feel like checking. We respect your privacy if you wish it. If convenient, a check is preferred, made out to the Life Extension Society.

Mail to: Life Extension Society
2011 "N" Street N.W.
Washington, D.C. 20036

- ☐ I accept the invitation to THE THIRD ANNUAL FREEZE-WAIT REANIMATE CONFERENCE in Washington, D.C., at Marty Laffal's, 1801 "H" Street N.W., Saturday, January 1, 1966. 9:30am to 4pm.
- ☐ Number of reservations (\$3.00 per person* check preferred, made out to the Life Extension Society.
Amount enclosed _____
- Name _____
- Address _____

*The cost of the conference includes the luncheon. Both the conference and the Life Extension Society are nonprofit.

Mail to: Life Extension Society, 2011 "N" St. Nw., Washington, D.C.

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FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

THE THIRD ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE WAS WILD, DISORGANIZED, BUT FRUITFUL.

The first two annual FWR conferences were small, quiet, informal, thoughtful gatherings. But this third one was different and LES may never be the same again.

Commonsense has long indicated that LES should have freezing containers available and animals perfused and frozen in preparation for an eventual application with humans. The Third Annual Conference planned to gather together the best available in cryogenic storage containers and even to have on hand some results of freezing and perfusing an animal. This combination of cryo-capsule and dog came fleetingly together in a whirl of chance, unexpected publicity and controversy.

The perfusion and freezing of an animal similar to a human had been considered for over a year. This part of the experiment, however, was not completed until December 23rd. Independently, Mr. Hope, President of Cryo-Care, manufacturer of the cryocapsule at the conference, suggested the freezing of a pig. His contention was that perhaps one out of every three or four people have had a dog at one time or another and by comparison he would much prefer to face all the pig lovers of America. Also he noted that when the Russians in their pioneer effort put dogs in space, even he for the emotional moment considered them a bunch of pigs. As wise as his observations were the dog was found to be the most practical animal though LES had arranged to freeze a pig if that were needed.

The cryocapsule of Mr. Hope's arrived for the conference right on schedule by trailer on December 27th. As the conference was less than a week away, the complications of freezing a pig seemed rather large, and as the dog was already frozen, Mr. Hope asked if he could display the animal in his cryocapsule. Considering that Mr. Hope had gone to great expense and effort to build such a cryogenic container, one that could be a great benefit to the movement, LES was only more than glad to deed the dog over to him with the hope that he could keep it continuously suspended in liquid nitrogen.

As it was then definitely known that the dog and the cryocapsule would be available a notice to the press was released to let additional people know we were having a conference and something of what might be of interest. The release was as follows:

FOR RELEASE: IMMEDIATELY

WASHINGTON, Dec. 29 --A jet black female dog by the name of Bel has been frozen into cryogenic suspension with the intention of keeping her for reanimation in the distant future.

This age-spanning experiment was announced by the Life Extension Society, an organization advocating the freezing of humans for a possible future extension of life.

(continued)

-copyright 1966-

Bel, an averaged size dog, half Labrador Retriever, was first anethetized, then perfused and cooled with DMSO which protects the cells when frozen. In perfusion the DMSO (dimethylsulfoxide) in solution is circulated through the bloodstream until it reaches the cells. Further cooling and freezing was achieved by using dry ice. Finally, liquid nitrogen (-195°C) is advocated for long term storage.

Whether and when Bel can be reanimated cannot now be known. Reanimation will depend on the sophistication of the future reanimation sciences. The purposes of the present experiment are to improve perfusion and freezing techniques with an eye toward placing humans in cryogenic suspension. The experiment will also help ascertain actual storage costs and stimulate further research.

This freezing experiment was organized and performed by Ev Cooper, President of the Life Extension Society, with the technical assistance of a Doctor of Veterinary Medicine. Further details of the freezing will be given at the Third Annual Freeze-Wait-Reanimate Conference, here in Washington, on January 1st, in a paper entitled "Perfusion and Freezing of Our Large Homeothermic Friend, the Dog." Bel will be at the conference also, reclining suspended in a new liquid nitrogen cryo-capsule large enough, and eventually intended for, two humans. -30-

The next day, Thursday, December 30th, the story was carried on the first page of The Evening Star newspaper. The reporter went to the trouble of asking the corporation counsel's office if such a thing were legal. The answer was apparently affirmative.

The Cryo-Care capsule was scheduled to be filled with liquid nitrogen the same day for the dog who was to be transferred to it the following day. On Friday, however, upon opening the new cryocapsule it was found that no liquid nitrogen was inside. Mr. Hope thought that there probably had not been enough pressure on the liquid nitrogen to force it into the chamber at the time of filling. Therefore an additional 50 liters of liquid nitrogen was obtained and the transfer was left to Mr. Hope for the following day, the day of the Conference.

Just prior to the conference both major Washington papers carried further stories. The Washington Post carried an informative factual article. The Evening Star interviewed Richard Hadsteth, vice president of Cryogenics Inc., who said the dog was dead. The representative of the Humane Society was reported to have said it was shocking, disgusting, served no useful scientific purpose, and that their attorneys would look into the matter.

THE DAY OF THE CONFERENCE broke warm and beautiful but the proprietor of the meeting place was very nervous. He asked that the cryocapsule not be displayed within the restaurant and suggested a location just outside. Reporters began to arrive very early and asked to take pictures. Mr. Hope, along with Bob Ettinger and others, took the reporters for an early preview and pictures of the dog being transferred to the new capsule. One of these early pictures appeared in the Star the next day with a long much more favorable story. The photo showed Mr. Hope placing the dog in the cryocapsule.

THE CONFERENCE BEGAN with small numbers but the noise and confusion of movie cameras for TV, flash bulbs popping and the probe of bright lights on audience and speakers. Comments on the papers will be reserved for

the moment. (A program of the conference follow.) The superficial drama lay on the periphery of the conference room. Additional participants came until they numbered about forty. What made the proprietor increasingly nervous, however, was the increasing flood of newsmen asking him where the dog was, where was the capsule, and interviewing anyone they could get their hands on. It was reported that finally the proprietor got so excited he was waving his hands in the air and shooing away any reporters, and perhaps others, who tried to enter.

Outside, TV cameramen and reporters were gathered where Mr Hope had parked -in a no parking zone- as close to the restaurant and meeting as possible. It was reported that near noon the representative of the Humane Society rushed into this sidewalk gathering of TV camoras demanding to make a statement. The statement repeated the previous charges and suggested or stated that Ev Cooper should go freeze himself.

The police, who had been reasonably patient with the trailer in a no parking zone, absolutely demanded at one o'clock, according to Mr. Hope, that he move it. So with cameramen still shooting TV shots that were to appear on stations later that evening, Mr Hope reluctantly but smilingly drove back to the parking lot with dog and cryocapsule. Thus some LES members missed seeing dog and capsule and were greatly dismayed. However, after the conference another viewing of the capsule was arranged. As the evening darkness came the last sight to be seen was a German movie camera crew painstakingly shooting film of the interior of the capsule and the insulation literally from inches away.

SUMMARY OF THE CONFERENCE IN PART. So much can be said, and perhaps will be said later, about the conference. Here we might become more serious than to describe some of the interesting visual superficialities and review some of the more significant elements of the conference. First, a representative segment of the freezing movement had a chance to meet, confer, visit, exchange views, and listen to new ideas. Second, an apparently well constructed cryo-capsule, specifically designed for one or two humans, was shown to LES members and others. The looks, design, and construction -except for the fill, which is minor- were most impressive. Though this capsule still has to prove itself in tests, reasonable cryogenic storage facilities now exist in this most limited supply. (This doesn't mean that freezing is restricted to this more elegant type of cryocapsule. More conventional insulated containers can be used in emergency and short term use. They are not quite so efficient.) Third, the freeze-wait-reanimate hypothesis has been initiated into experimental operation with the perfusion and freezing of the dog. Results have been obtained on some costs as well as many things learned that would not have been learned if the experiment had not have been initiated. We expect to obtain many other findings in the future even from this same experiment if we are able to maintain it. The dog is not now in the new cryocapsule, as Mr. Hope had second thoughts about keeping the dog. However, the dog is safely frozen, at this writing, with a combination of dry ice and liquid nitrogen. Fourth, the conference brought us additional support from M.D.'s, scientists, and others.

THE CONFERENCE PAPERS and presentations deserve a separate report or reprinting of some. These reports or reprintings will be reserved for a later date.

LIFE EXTENSIONISTS MEET

Frozen Dog Is Placed in Capsule

By WILLIAM GRIGG
Star Staff Writer

Members of the Life Extension Society transferred their frozen dog yesterday from a box of dry ice to a shiny round "cryocapsule" for indefinite storage.

The manufacturer and owner of the capsule, Ed Hope of Phoenix, Arizona, promised to keep the dog until, he said, scientists may develop techniques to "reanimate" her.

Hope brought the capsule here from his new manufacturing firm, Cyro-Care Inc. of Phoenix. He said he will carry the dog in her capsule to New York for a few television appearances and then to Phoenix for storage.

Dog Frozen Dec. 22

The dog, Bel, part Labrador retriever, was anesthetized and frozen here Dec. 22 by the president of the society, Ev Cooper. The society, made up primarily of laymen, advocates the freezing of humans, at death, for reanimation and cure of terminal illness at a later date.

Robert Ettinger of Detroit, author of "The Prospect of Immortality," helped transfer Bel to her new capsule. He said the freezing of the dog would be valuable "partly for dramatization and partly to start developing a stock of frozen animals" for later reanimation experiments.

The transfer was accomplished in a parking lot in the 1300 block of K Street NW. On most any other day of the year except New Years, a crowd might have gathered. But yesterday, the area was deserted.

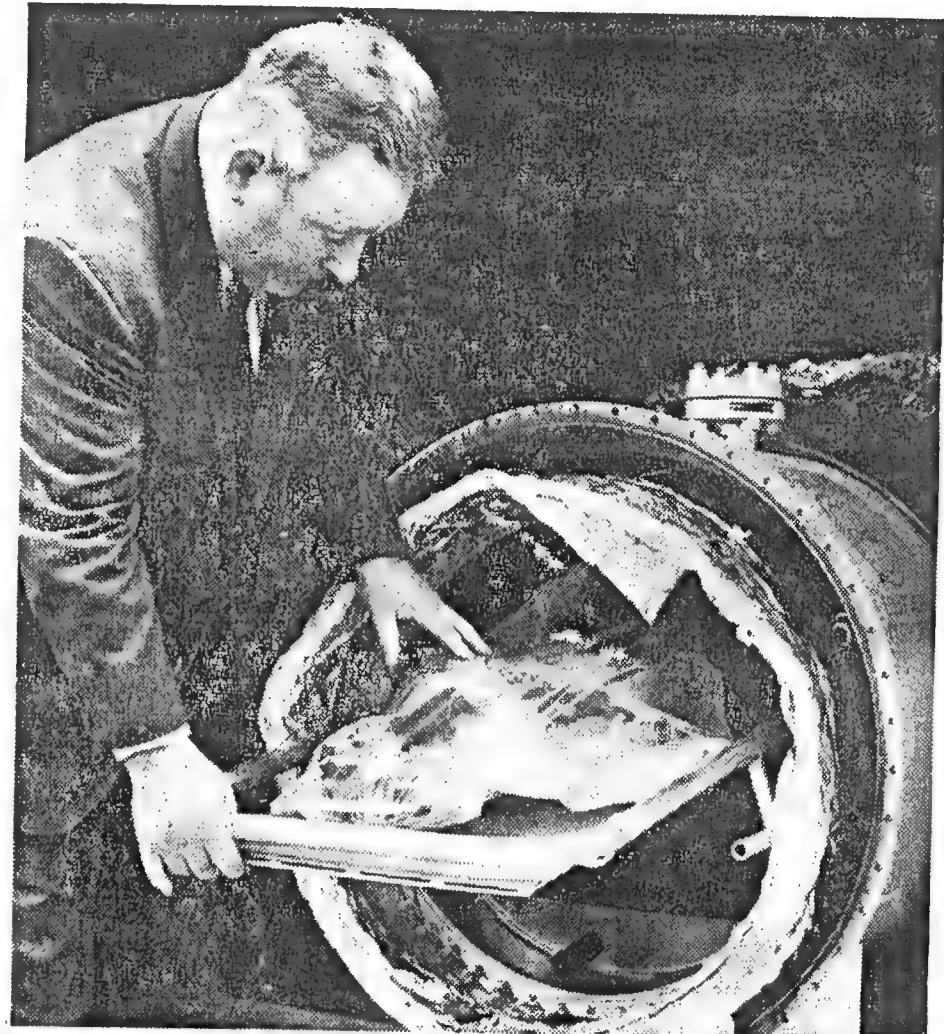
Insulation, Dry Ice

The dog was originally in a large box made of fiberboard. Three society members opened it, lifted off sheets of insulation and exposed the dog and a block of dry ice.

The dog was in a plastic bag, which the men lifted from the box, which rested in the back of a convertible car, to a trailer owned by Hope. The capsule was inside.

Designed for two humans, the capsule is cooled by liquid nitrogen. Bel was placed on a stretcher-like sliding tray inside.

Meanwhile, in an upstairs room of a nearby restaurant, members of the society were holding what they called the



—Star Staff

The frozen dog, Bel, is stored in a "cryocapsule" by Ed Hope, of Phoenix, the manufacturer of the capsule. The experiment is the work of the Life Extension Society of Washington.

"Third Annual Freeze-Wait-Reanimate" conference. A discussion of Bel's freezing was a part of the meeting and members were given an opportunity to see the sryocapsule and the dog.

"Large Homeothermic Friend"

Cooper listed his discussion of the freezing of Bel as "Perfusion and Freezing of our Large Homeothermic Friend, the Dog." Perfusion is the method of pushing a cooling agent through the blood vessels of the dog.

Today was listed on the agenda as open for further discussion.

The society, which advocates

and promotes freezing, claims a world-wide membership of more than 300 persons. About two dozen persons attended yesterday's meeting.

The audience included two Roman Catholic priests. One said they were attending as non-members interested in the potential effect of reanimation ideas on Christian views of God, the body and the soul.

Gets Few Protests

Cooper, 39, a layman who has attended local universities without gaining a degree, said that thus far he has received few protests about the animal experiment.

However, Frank J. McMahon,

director of field services for the Humane Society of the United States, said Friday he had asked his organization's attorneys to look into the experiment. He said it did not appear to him to be a useful experiment under the auspices of a truly scientific organization or faculty.

Cooper said he prepared for the experiment by reading at the National Library of Medicine in Bethesda.

The mailing address for the Life Extension Society is 2011 N Street NW. It calls itself "international, non-profit, scientific and incorporated for service."

LIFE SPAN OF AMOEBA EXTENDED BY A FACTOR OF SIXTY FIVE

A report indicates that Max Hartmann has experimented with removing the plasma from amoeba to prevent them from reaching their critical size when division occurs. The removal of plasma was continued for 130 days without impairing the life of the amoeba. At the end of this time the amoeba was allowed to reach critical size and divide normally. As the amoeba's normal life span is two days, the life span of the experimental amoeba was extended sixty five times. If in the future something analogous may be done for men a person might enjoy a life span of 4,550 years. (New Scientist 4 November 1965 reporting Dr. Friedhelm Schneider in the "current" Naturwissenschaftliche Rundschau.)

ANABIOSIS OBSERVED WITH ELECTRON MICROSCOPE IN SUSPENDED PEA CELLS

Ernst Perner of Germany has confirmed three mechanisms of suspended animation in dried peas with a new method of staining and the electron microscope.

1. During suspended animation the protein molecules form crystals.
2. Cell vacuoles move to the cell wall to help strengthen and to help insulate. This position also facilitates reanimation.
3. Cell membranes are capable of great contraction and intricate folding and eventual expansion again without damage.

(Reported in Time magazine, January 14, 1966, p. 54)

REPORT ON PERFUSION AND FREEZING OF FLATWORMS IN GLYCEROL AND DMSO

Mrs Judie Walton on behalf of LES is freezing flatworms in varying concentrations of glycerol and DMSO. A short note as this cannot do justice to her excellent 11 page report which was too late for the conference. However, she has found that DMSO perfusion in higher concentrations has at least maintained the structural integrity of these organisms during freezing and thawing whereas that wasn't achieved with the use of glycerol or with the controls which were not perfused.

MEMBERSHIP & SUBSCRIPTIONS now number over 415.

MAIL: Approximately 250 pieces of mail received in December. 579 pieces went out exclusive of 556 newsletters and conference invitations and 90 news releases.

NEWSLETTER PRINTING AND MAILING DATES. 600 newsletters were printed in December with the regular mailing into the post office late Dec 4th. The same number are expected to be printed for January with an expected January 17th mailing date.

PUBLICITY There has been so much publicity the last several weeks that we cannot even list all of it not to mention that publicity at a distance that we may not hear of. Innumerable newspapers, radio and TV broadcasts made note of the conference, freezing of the dog, and interviews. All CBC stations in Canada are scheduled to carry the story again on the Seven Days Show, Sunday January 16th. Bob Ettinger was on the Johnny Carson Tonight program displaying some excellent wit and humor during the week after the conference. Bob also has an excellent article in the January issue of Ebony and his book is scheduled for a paperback edition in February.

Ted Sibley in London was interviewed by The Sunday Telegraph and a very pleasant story on LES and other aspects of the freeze-wait idea was included in the January 9th edition.

Zena Cherry in the Toronto Globe and Mail discussed the idea Jan 7th.

LETTERS TO THE EDITOR

Dear Ev:

The news about the work by Suda and Barner is very exciting. It is particularly important to know if the brain is easier to freeze and revive than other organs, since the other ones could eventually be replaced completely if necessary. Incidentally, there is more and more evidence accumulating that memory is somehow stored in the RNA molecules. It now seems pretty definite that training patterns in rats can be transferred by injecting RNA from trained rats into untrained ones. Eventually, if all other methods fail, one might be able to transfer the personality via the RNA molecules in which it is stored. But that is not the most hopeful method.

Gary Feinberg (New York City)

(NOTE ON LIQUID NITROGEN CONSUMPTION: Gary Feinberg, who is a professor of Physics, gave a report to a special LES meeting in New York indicating that with reasonably ideal insulation and volume, liquid nitrogen consumption for storing humans should amount to approximately \$50 per year per person.)

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Dear Ev,

I like the new LES circulars very much! I could handle fifty copies of this and I can promise to give you the verbatim and unexpurgated reactions of every single recipient. Whatever any individual reaction, one important factor is assured: they will be passed on from person to person within our science fiction fraternity and ports outside our microcosm.

A recent letter from S.F. author and industrial chemist _____ who lives in Newcastle-upon-Tyne, England, started with "Dear Peter, Thanks for the letter and nutty enclosure...." in response to the mimeographed LES circular. On the other hand, a few have expressed a serious and genuine interest, but whether this is mere curiosity or not, remains to be seen. But SF authors and fans are an ideal audience, as I'm sure you'll agree.

Best wishes,

Peter Singleton (Nr Preston, England)

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NEXT LES MEETING IN NEW YORK

The next meeting of the New York Chapter of LES will be held at 8:30, Saturday evening, February 12, at the home of Mr. Harrison Roth, 45 West 132 Street, New York City. The Roth's phone number is WA6-2135. Please call before coming as space is limited and it is possible they may need help with extra chairs and cookies or something like that.

NEXT LES MEETING IN THE WASHINGTON AREA

The next meeting of the Washington Chapter of LES will be held at 8:00, Tuesday evening, February 8th, at the home of Mrs Peg Howard, 208 Ashlawn Drive, Ashton, Maryland. The location is $\frac{1}{2}$ block off New Hampshire extended in Ashton. The phone number is 924-4972, or call LES Washington if we might be able to arrange needed transportation.

SPEAKERS ARE AVAILABLE: Call your nearest LES Coordinator, or write to LES Washington.

AN INSURANCE OFFER: It has been estimated that \$10,000 in insurance would cover freezing and continuing maintenance. It is possible that \$5000 might be sufficient, though the former figure is safer. One insurance company has made us the following offer which we quote below. We have not accepted this offer as yet. We would like your opinion and any information you might have to offer. Rates below for \$10,000.

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 "A life insurance program, which combines broad choices of plans and amounts of coverage as the individual may elect, has been presented to the Washington Chapter of LES. Premiums can be paid on a monthly basis through LES.

"Rates are shown below for three of the plans. The term insurance has guaranteed rates for five-year periods, is guaranteed continuable through age 70, and is convertible at any time. The whole life insurance is payable until first death. The ten-pay life insurance is payable for ten years, then pays the full face amount whenever first death occurs.

RATES

"Subject to 5 or more lives--\$25.00 per month billing--\$2.50 minimum premium.

<u>AGE</u>	<u>FIVE-YEAR TERM</u>		<u>WHOLE LIFE</u>		<u>TEN-PAY LIFE</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
30	\$5.08	\$4.80	\$14.10	\$13.40	\$38.00	\$37.80
35	\$5.83	\$5.35	\$15.80	\$15.14	\$44.47	\$42.20
40	\$7.34	\$6.40	\$20.10	\$18.00	\$50.01	\$47.10
45	\$9.40	\$8.08	\$24.15	\$21.54	\$56.20	\$52.53

"We think that this program has merit in offering a solution to possible future financial problems with our objective.

"May we have your opinion on the coupon below..."

-
- ☐ I am interested
- ☐ I would like to know more
- ☐ I am not at all interested

Name

Address

Mail to: Life Extension Society
 2011 "N" Street N.W.
 Washington, D.C. USA
 20036

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES of some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall
Caracas, Venezuela		Kurt Bantelmann
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc Collet, Rosieres-Aux-Salines
		Meurthe et Moselle.
Hull, England	48114 Hull	Alan Worsley
London	BEC 3290	E.G. Sibley
Los Angeles	(213)667-2240	Dennis Guiley
Los Angeles	(213)348-1276	Tom Tierney
Lyon, France		Roland Missonnier
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
San Jose, Costa Rica ..	28.58	Henry Donnat
South Bend, Ind.	(Tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Montreal, Canada	(514)484-1591	Jim Clancy

MEMBERSHIP AND SUBSCRIPTIONS: Student \$1 (Also for those with an unfavorable rate of exchange.) Regular \$2 (The newsletter goes with all memberships.) Contributing member \$5 or more. Life member \$100. If a subscription alone is desired it is \$2 for this year. Check is preferred, made out to LES, and indicate what you wish. For checks and currencies from other lands add enough for collection or exchange charges, or use international postal money orders or postal coupons.

FOR FURTHER INFORMATION: Write to us. We would be most interested in hearing from you and would try to answer any questions you might have.
MAILING ADDRESS: Life Extension Society, 2011 "N" Street N.W., Washington, D.C., USA 20036.

-international- -scientific- -nonprofit- -incorporated for service-

LIFE EXTENSION SOCIETY PROGRAM

WELCOME TO THE THIRD FREEZE-WAIT-REANIMATE ANNUAL CONFERENCE.

This is an informal conference on both science and opinion relevant to the hypothesis that if a person (or animal) is properly perfused and cooled at or near death, frozen and stored at cryogenic temperatures, reanimation may be possible in the future.

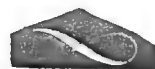
January 1st 1966. (January 2nd open for further discussion and visiting.)

Washington, D.C. Marty Laffal's, 1801 "H" Street, N.W.

THIRD ANNUAL FREEZE-WAIT-REANIMATE PROGRAM. All papers or talks are 10 minute presentations with discussion following.
9:30 am Registration and coffee.

10:00	Introduction	Ev Cooper
10:10	MOTIVATION	Motivation for an Extended Life.... Peter Kline.
10:30	MOTIVATION	The Possibilities for an Individual in the Future.....John Prince, Jr.
10:50	LAW & GOV'T.	Suggestions Toward Establishing Equitable and Safe Cryogenic Storage.....Bill Albaugh
11:10	LAW	The Law and Freeze-Wait-Reanimate.... Michael Hart.
11:30	PHILOSOPHY	Two Replies to Death: The Apollonian and Dionysiac.....E Wesley Walton
11:50	IDENTITY	Identity and Reanimation.....Ernest Karlsen.
	<u>LUNCH</u>	
1:45	IMPLEMENTATION	Thoughts, Information and Suggestions on Cryogenic Interment.....R.C.W. Ettinger
2:10	PERFUSION	Perfusion and Freezing of our Large Homeo- thermic Friend, the Dog.....Ev Cooper
2:35	THEORY	Steady State Phenomena in Living Systems and some thoughts. S.A. Pawlowski.
3:00	PLANNING	Life Extension Society Long Range Planning. Larry Klar.
3:25	MANUFACTURE	The Construction and Manufacture of a Cryo-capsule.....Ed Hope.
2:50	SUMMARY	By Peg Howard.

Some of the above titles are tentative;
You should see a cryocapsule, or cryogenic container large enough for a human, on display at the conference.
A dog which has been perfused and placed in cryogenic suspension is scheduled to be at the conference.
The conference is sponsored by the Life Extension Society, 2011 "N" Street N.W., Washington, D.C. (mailing address). LES is international, nonprofit, scientific, and incorporated for service.



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

REPORT OF CAT'S BRAIN REVIVED AFTER HALF-YEAR IN DEEP FREEZE TO BE PUBLISHED IN ONE OF WORLD'S FOREMOST SCIENTIFIC JOURNALS.

When we first heard of Professor Suda's achievement and reported it in our September 1965 FWR newsletter we were on tenderhooks. Could such an advance be a hoax? Could the report be an exaggeration? Never before, to the best of our knowledge, had a brain been lowered in temperature below -5°C for more than an hour and that was the brain of a much smaller animal the hamster. Now we heard that a cat's brain had been thoroughly perfused, frozen for one half year, and revived with a good EEG which can be a reasonable test of function. It seemed to indicate that it was just a matter of time -no matter if it took decades- before the human brain would be stored under somewhat similar cryogenic conditions. It indicated that if a person were faced with an inevitable death, his best chance for some distant future revival was perfusion and freezing even now.

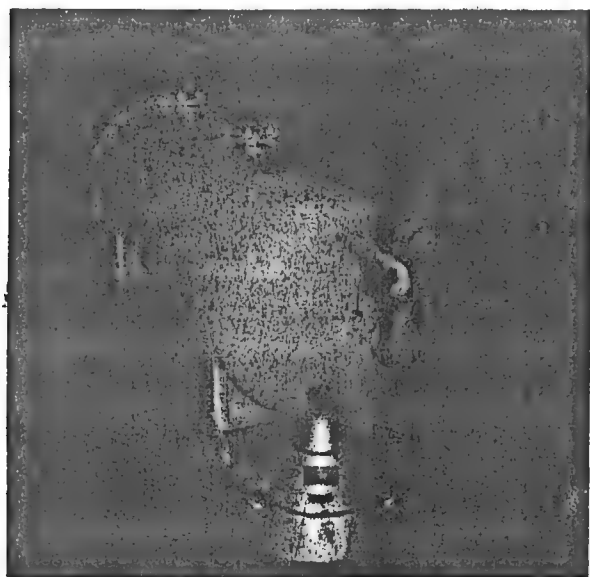
Professor Suda's experiment is now gaining increasing acceptance. Not only has it been published by the New York Times News Service and by Medical World News, but now Professor Suda informs us it will be published in Nature. There is some discussion in LES as to just how great Nature is. Last week's Time Magazine reported received opinion that "London's weekly Nature magazine has reigned for almost a century as the world's foremost

scientific journal." An LES member who has been published in Nature suggests that while it may be an exaggeration to say it is a dumping ground for articles that cannot be published elsewhere, it is not as selective as some American scientific journals.

Whatever the exact status of NATURE, Suda's publication therein seems to be a great advance for freeze-wait-reanimate scientific acceptance.

Suda's experiments also help break down old dogmas that the brain is permanently dead if it is once deprived of oxygen. More important is a cold temperature: hypothermia and freezing, and perfusion of the brain with the proper solution. Suda says, "viability is still maintained under hypoxic circumstances."* The problem of damage to the

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CRYO-CARE CRYOGENIC CONTAINER FOR
HUMANS REPORTED SOLD TO NEW YORK FIRM

-See note on pages following-

-copyright 1966

brain is more likely to be the result of damage to the blood vessels and transport structures in a terminal condition or as death approaches. Similarly with revival or reanimation: the problem is the "serious hindrance to the reopening of blood circulation to nerve cells."*

Everyone is interested in just how well that cat's brain survived the injection of heparin, the cold perfusion, the freezing to -20°C for over 200 days and then the revival with blood at normal body temperature. The descriptions are very encouraging such as: the "in vitro electroencephalogram (EEG) which showed a brain wave pattern identical to that of a live cat," and "restored to unimpaired function."*

TO SUMMARIZE, we can use the words of Dr. Suda: The brain dies within three to six minutes if blood flow through it is halted. But we have demonstrated that it can be kept in a state of preservation through the deep-freeze method."*

NOTES:

* From Medical World News, November 12, 1965, pp. 96-97.

Some of the information by personal communication with Prof. Suda.

The title of his paper to be published in Nature will be "The viability of long-term frozen cat brain in vitro."

The cold perfusion solution is 4% low molecular dextran-Hanks, 4mg% chloramphenicol, with glycerol to 15% gradually added.

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EXCELLENT ARTICLE: "TISSUE FREEZING, A Theory for Injury and Survival" by A.M. Karow, Jr. and W.R. Webb in Cryobiology, Nov.- Dec. 1965.

The most recent issue of Cryobiology, which reached LES on February 14th, has a nine page article elucidating the latest theories how tissue survives or fails to survive freezing. Some of the main points are as follows: Bound water, molecules of water that are relatively firmly hooked to other water molecules, provide the key to protection. Bound water occurs in cells being structured by BNA and other compounds. Protective lattices are set up by the bound water. Slow freezing is generally best for survival. It allows the water that is not bound to move between the cells where freezing is less destructive. The protective lattices remaining within the cell protect vital parts of the cell during freezing and thawing. These protective lattices can be strengthened by perfusing DMSO, glycerol, or other cryoprotective agents into the cells. Other agents like dextran and PVP can help form lattices outside the cell for protection. If the lattices are strong enough to survive freezing, the cells or tissues survive.

The journal Cryobiology can be obtained at \$3 per issue when available, \$15 to \$17.50 per year depending on your location, or from large libraries. Their address is: Cryobiology, 4200 Heathfield Rd., Rockville, Md., USA, 20853.

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ETTINGER'S BOOK "THE PROSPECT OF IMMORTALITY" IN PAPERBACK EDITION

The book that has spread the idea of freezing with an eye toward eventual revival is now scheduled for publication in a paperback by Macfadden for February 15th. A German translation of The Prospect of Immortality, has recently been published by Hyperion Press.

CRYOGENIC HOPE CHEST FROM PHOENIX SOLD TO NEW YORK CITY FIRM

The Cryo-Care cryogenic capsule pictured on page one has been sold by Ed Hope, President of Cryo-Care, Phoenix, Arizona, to John Flynn, President of High Energy Processing Corporation, of New York City and New Bedford, Mass. This was learned by recent telephone conversations with both parties.

John Flynn, who has completed work on a biophysics doctorate, thesis pending, at University of California, is planning to arrange for the manufacture of cryogenic storage containers for humans. He plans to have his first capsules manufactured in 4 to 8 weeks and apparently would like to examine the best currently available container on the market. Ed Hope informs LES that his company is in the process of manufacturing additional capsules.

John Flynn reports that he would like to have very careful tests done with the new containers possibly using monkeys for experimental freezing purposes.

BBC SWOOPS IN ON LES MEMBER IN LONDON AT LAST MOMENT FOR TV BROADCAST

As the result of the recent LES conference in Washington TV interviews were obtained by the CBC in Canada and the BBC in London. In London the BBC obtained some opposition to the freezing idea from a low temper-expert from Westminster Hospital and needed an LES member to present the positive side. Early the evening of January 24th BBC phoned E.G. Sibley, London LES Coordinator asking him to have an LES member on the "24 Hours" show later that same evening. For one reason or another the London LES members could not take part and the willing members hundreds of miles distant could not reach London in time. However, earlier that day Sibley had received the address of E. Cowen a London member but with no phone number. As a last resort BBC dispatched a car through London to Cowen's address and fortunately found him willing to take part. We may owe an apology to Cowen for the intrusion. We certainly wish him congratulations and thanks. Reports returning from London indicate, "he made a very good showing indeed -- really turned up trumps... He more than held his own..." There is little that can make a last minute TV broadcast easy for anyone. But if anything did for Ed Cowen it was that he had already been experienced in the freezing of cells with liquid nitrogen and had observed the results under high powered phase microscopy. He has read everything he could find on DMSO and is an enthusiast for all aspects of Cryobiology.

NEW YORK LES MEETINGS, INFORMAL, INFORMATIVE, THOUGHTFUL, CONSTRUCTIVE

Recent LES meetings at the homes of Mr. Harrison Roth and Mr. and Mrs. Robert and Sandra Shapiro have been popular and of great help to the movement. There has been increased interest on the part of doctors, veterinarians, and we are proud to note an unusual number of Mensa (high IQ society) members who are also LES members. Thanks to the inestimable support of Prof. Feinberg and the work of New York LES Coordinator Michael Hart our membership is increasing and we are developing a better working base.

FRANCE VERY ACTIVE. DR. LACROIX-HERPIN GIVES LECTURES

We note in our files 32 French freeze-cards. LES in France is more
-continued-

more than active thanks to the long run efforts of Marc Collet and now additional LES Coordinators such as Docteur Marcel de Lacroix-Herpin (Neuro-Psychiatre), President of the Lorient Cultural Center and LES Coordinator for the same city. Recently he gave a lecture to a large audience on the varied aspects of death and what may be done about it (freezing).. Selections from his lecture will be reprinted in French on one of the following pages. If possible we will continue each issue with something in French to better serve and communicate with those who read that language.

* * *

LES WASHINGTON MEETING URGES MOVING FORWARD QUICKLY WITH STORAGE UNIT

The February meeting at Mrs Howard's home was in complete agreement of the urgency of locating, obtaining, and developing better physical facilities for storage, clinic, laboratory, and meetings.. As LES grows and as the idea takes a firmer hold with some of the public, storage and as many other facilities as are possible must be ready. As our very conscientious Treasurer is already slightly nervous because we have spent so much on research, postage, and advertising, our reluctant conclusion was that we would have to appeal for funds. See appeal at end of newsletter.

THE NEXT LES WASHINGTON MEETING will be at the home of Dr. and Mrs. Gouras, 6309 Crathie Lane, (near Glen Echo or off Beltway at River Rd.) Tuesday, 8pm, March 8th.

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ETTINGER SPEAKS AT BROOKLYN LIBRARY, ARRANGED BY CRYONICS SOCIETY

Bob Ettinger spoke to an overflowing audience for 1½ hours at the Brooklyn Public Library January 27th. It was estimated that 250 people came to listen. The Cryonics Society of New York, Inc. is an independent society advocating freeze-wait-reanimate. They are a small society as yet with 22 members at latest report. A charge of \$15 per year is made for dues. Their address is 306 Washington Avenue, Brooklyn, N.Y.

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THE FREEZING OF PETS: ADVANTAGES AND DISADVANTAGES

It has been reported that a woman in New York is seriously considering freezing her dog when he dies. This plus the letters below start thoughts of the possible advantages and disadvantages of freezing pets when they die. **ADVANTAGES:** 1. The pet provides an experimental trial freezing run before it would normally be the master's turn. 2. Assuming there is space in the capsule when the master dies, this makes sure the container is prepared. Its efficiency and safety can be checked. 3. The pet can be reanimated prior to the master's reanimation which might make it safer for the human. 4. If the reanimations are a success the pet has his master and vice versa. **DISADVANTAGES:** 1. Normally it would be a social and personal cost. 2. If freeze-wait-reanimate becomes solidly established, thousands or even millions of experiments might make pet freezings unnecessary in the long run.

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LETTERS TO THE EDITOR

Dear Ev,

One or two thoughts I have had. These may possibly have some merit. No harm in throwing a few ideas around anyway.

It occurred to me that some people might want to have their pets

-continued-

frozen. This might be some sort of useful introduction to the idea. On the other hand it might put people off. On the other hand again people might be more prepared to 'experiment' with their pets even though they might love their pets more than their relations. The details of the dynamics of peoples relations with their pets might allow this at least in some cases. I am thinking that the legal difficulties would be less or non-existent and the scope for experiment greater. Also, the people who care for their pets in this way are often very rich. (I saw a 'Lost' advertisement the other day for a poodle offering a Mk.10 Jaguar as reward.)...

Yours ever,
Alan Worsley, Hull, England

Dear Ev,

= The third annual FWR Conference sounded quite fruitful. All of the publicity arising from the freezing of the dog should certainly be helpful. ...

Sincerely,
Art Quaife, Piedmont, California

Dear Ev,

... The consensus of opinion among our immediate LES pals in New York was that the press release on freezing the dog made such a poor impression that it might have done the group more good not to publicize it. It gave the impression of a thoroughly amateur and disorganized episode that isn't likely to make people take the matter seriously. ...

Best regards,
Sandra Shapiro, New York City

Dear Mr. Cooper,

... At the moment apparently nothing more practical has been achieved than the revival, after only some hours, of dogs that had been cooled down to 20°C only, and as long as we do not succeed in awakening animals after a high-grade hypothermia, we cannot assess and compare the best suited preservation methods. Of course, we could leave it to the future generation concerned to cope with the mess to the best of their ability, and I agree with you that even an imperfectly frozen person will have a much greater chance of revival than another one destined to grave or furnace. ...

An important factor in the scheme, which probably has already been discussed among your members, is revival of the frozen person's memory. If every remembrance of his former existence is wiped out, he is no longer the same, reanimation becomes useless, akin and inferior to reincarnation, actually its reversal, viz. a preserved body that has to develop a new soul. Perhaps there is not much risk of amnesia; otherwise one could think of recording the subject's total memory, with all its shades from very vague to vivid, and feeding it back into him after his reanimation. Such a recording, if imaginable at all, seems a formidable task, and, leaving out the imponderable emotions connected with each memory fragment, would not suffice for restoring the former personality. Let me make this point clear with a cartoon sequence, which I should draw if I could:

Two blokes fight and knock each other out. They are carried to the cryobiosorium or whatever you call it, frozen, eventually reanimated, leave the building, and, in the courtyard, knock each other out again. - This could happen only in the case of a natural memory restoration, while a recorded memory would not result in resumption of violence.

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All in all, cryobiology as a means to extend human life, at the present stage of knowledge, is still far away from reality; but it is a goal to be pursued with vigour. Imagination turns fast into reality in our progressive age, and Jules Verne's heroes of yesterday are today's astronauts.

Yours sincerely,
Alan Leiser, Ph.D., Bombay, India

Dear Ev,

... I wonder if society will not put a price upon our lives if this movement is successful? One must consider the overpopulation we might find ourselves in. A price for immortality might be as a colonist to distant planets. Another, mentioned by others, existence as an impassionate psuedo-electromechanical humanoid. Yet research should eventually discard this with more realistic alternatives. Neither of the above seem too extreme a 'penalty' if one calls it that.

One last item. The Defense Department is selling silos formerly used by now obsolete ICBM systems. Perhaps a good storage area? Storage does bring up another problem. Where would be the best location? Certainly not an area of earthquake activity or dissimilar disturbances. I find that our problems are only beginning to be answered. ...

Sincerely,
C.S. Farriss, Fingerville, S.C.

Dear L.E.S.,

... The idea of drawing up specially prepared forms for Wills and trust agreements is no doubt a good one. Other "stumbling blocks" would be possibly the "next of kin". I am referring to parents, brothers, sisters, husband or wife, etc., and possibly even hospital authorities. Wouldn't it also be useful and desirable to obtain oral and written agreement in advance by having standard forms made up? .. From what I read in recent newsletters in cases where freezing was seriously attempted, these seemed to be the insurmountable obstacles. A standard, routine, easily flowing mechanism of competent qualified people that will swing into action when one dies or is about to die as we know it clinically, seems to be in order. ...

Best of luck;
Norman Swenson, Worcester, Mass.

Dear Ev,

... As for the conference: There wasn't enough room for discussion I thought. And the program was very technically oriented, if I remember right. Since the audience consists of presumably all sorts of people, not all of whom are technically minded, it might be a good idea to have a more balanced program that is, talks of a more "philosophical" nature too. I realize that the now fragile hope of life of this society develops with those practical, technical advances, and without them we might as well all belong to a science fiction group instead. But you asked me about the angle of general interest.

It would be nice if next time the seating could be more circular. The conference was certainly not "disorganized." I think it would have been better to have less speakers. Would it be possible to have speakers submit beforehand their papers, so that those who attend the conference can read them and come prepared to discuss them in the time that will then be available?

Yours, from here to ---
Ruby Sternfeld, Ann Arbor, Mich.

LETTERS TO THE EDITOR

Dear Ev,

... Darn life. One must spend so much time earning his daily bread, little is left for learning and doing scientific research.

Think of what could be accomplished if the energy and resources that we are now being wasted in Vietnam by both sides could be put to use in a crash program for studying cryogenics and cryobiology.

Isn't man a fool?

Sincerely,
Thaddeus

dear ev--

if you can freeze a person, then reanimate him, you will get a nobel prize, become an international figure--become in a word immortal! --& become, i suggest, anointed & crowned by the pope as messiah: the kingdom of heaven as specified by jesus is at hand! . . . by the way, what did you say your name was? . . .

sincerely,
leonard gilley, denver, colorado

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MEMBERSHIP AND SUBSCRIPTIONS now number over 460.

MAIL AND NEWSLETTERS: 264 pieces of mail in during January. 411 pieces of mail out exclusive of 486 newsletters mailed January 16th. 600 newsletters printed. Target date for mailing this newsletter is Feb. 20th.

SPEAKERS ARE AVAILABLE If your organization, university, or club would like to hear someone speak on the freezing possibilities and answer questions, call your nearest LES Coordinator, or write to LES Washington.

TAPES OF THIRD ANNUAL FWR CONFERENCE, AND BRITISH TV AVAILABLE

Bill Albaugh, our LES Treasurer and conference recorder par excellence reports that a limited supply of tapes of the conference can be made. Copies of the master tape will be run on demand. This means that delivery would be something less than instantaneous. The tape is 4 hrs in duration, 7" at 3 1/2 ips and costs \$3. The voice recording of the Gerald Evans, Brian Gilbert, et al. British TV broadcast is also available. It is quite short, 8-9 minutes and will cost 50¢.

MEMBERSHIP AND SUBSCRIPTIONS: Students \$1 (Also for those with an unfavorable rate of exchange.) Regular \$2 (The newsletter goes with all memberships.) Contributing member \$5 or more. Life member \$100. If a subscription alone is desired it is \$2 for this year. Check is preferred, made out to LES, and indicate what you wish. For checks and currencies from other lands add enough for collection or exchange charges, or use international postal money orders or postal coupons.

LES STILL OFFERS to freeze the first person in need, free of charge, or to the limit of our resources. This will take considerable courage and initiative on the part of those desiring cryogenic suspension and good luck and fortunate circumstances on our part. We will do our best to help.

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EXTRAIT DE LA CONFERENCE FAITE A LORIENT PAR LE DR. MARCEL DE LACROIX-HERPIN LE 15 DECEMBRE 1965

LA MORT

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V ASPECT RÉEL

Nous avons passé en revue les aspects philosophiques, sociologiques, psychologiques et physiologiques de la Mort.

N'y a-t'il pas un autre côté du problème habituellement laissé à l'écart ? Je veux dire : le problème moral de la mort ?

Il semble que, jusqu'à présent, tout le monde, tacitement, reconnaisse la Mort comme "morale" C'est-à-dire comme un "mal" nécessaire, qui peut d'ailleurs représenter un des plus hauts aspects du bien : la Mort du héros ou du Saint, par exemple, c'est à dire le sacrifice pour une idée plus haute que soi-même.

Est-ce que cette acceptation morale de la mort n'est pas liée à la constatation pratique de son universalité ? N'est-ce pas un accommodement ? devant le résultat écrasant des statistiques, si tant est qu'il est besoin de mettre en statistique un phénomène qui se renouvelle à 100 %

Je connais des gens qui bougent, et qui parlent; ils n'ont pas peur de la Mort. Elle leur est déjà arrivée. Et c'est cette mort "existante" qui est terrifiante : celle qui n'a pas besoin d'une putréfaction pour faire un cadavre - celle qui frappe l'individu à 15 ans, à 20 ans ou à 30 ans... rarement plus tard : si on n'est pas mort au monde, on durera jusqu'à la mort biologique.

Avançons pas à pas. Si nous admettons que notre humanité n'est qu'à son commencement, et que notre mission est d'aider à tout ce qui peut la rendre meilleure, c'est-à-dire à lutter contre la faim, la misère, l'ignorance et la maladie - y compris la vieillesse, nous retrouvons dans ce combat l'objectif immédiat qui est sans conteste le notre : faire reculer la Mort.

Mais si, dans les années qui viennent, cette idée et son application pratique font leur chemin, alors il est permis de penser que la lutte contre la mort aura fait un bond prodigieux en avant. Et je crois que c'est notre rôle à nous, médecins, de se tenir à l'affût des progrès possibles de conservation de la vie - aidés par le public qui doit exiger la plus large information sur ce problème.

Le 24 Mai 1965, le Pape Paul VI déclarait à une assemblée de Médecins "Vous avez à favoriser de toutes manières le développement et la sauvegarde du corps, retarder son vieillissement et sa destruction afin qu'il soit plus dispos au service de Dieu et des hommes".

Voilà un programme auquel je souscris entièrement, même si les avis peuvent différer quant aux services que l'homme doit rendre.

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INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall
Caracas, Venezuela		Kurt Bantelmann
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc Collet, 54-Rosieres-Aux-Salines
Hull, England	48114 Hull	Alan Worsley
London	BEC 3290	E.G. Sibley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)667-2240	Dennis Guiley
Los Angeles	(213)348-1276	Tom Tierney
Lyon, France		Roland Missonnier
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal, Canada	(514)484-1591	Jim Clancy
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
San Jose, Costa Rica ..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(Tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski -after 6pm-

LES Information Disseminator at Yale University, Stan Drezek, does not necessarily advocate freezing but interested in LES, will answer inquiries, form an LES group if possible, and would like to be informed of advances in freezing research. 305 Osborn Memorial Lab., New Haven, Conn.

FOR FURTHER INFORMATION: Write to: LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C., USA 20036

-international- -scientific- -nonprofit- -incorporated for service-

AN LES APPEAL

Since the inception of the Life Extension Society we have never made an appeal for funds. We know how irksome it is to be in an organization which is continuously and persistently presenting the upturned palm. Our romantic notion was to have someone frozen so we would be worthy of support before making an appeal and then only if we were desperate.

HOWEVER: for the following reasons, common sense indicates we must now make an appeal for funds.

1. LES is growing. With over 460 members and subscribers (not counting thousands of others who might be interested in freezing) it is inevitable there will be a need and demand for improved facilities.

2. Our present facilities are most primitive. We need a specific location and building for storage and allied functions.

3. We could wait until by chance and emergency someone is in immediate need of freezing and/or storage. By making arrangements from scratch and using what simple facilities and resources we have, we could, with luck, freeze and/or store the person in need. (We have successfully frozen and kept frozen a dog as an experimental trial run.) But we are doing less than we could if we planned and arranged facilities ahead of time.

THERE IS AN ALMOST UNANIMOUS FEELING THAT WE MUST RENT OR BUY PHYSICAL FACILITIES. We are most fortunate to have research scientists in LES, and a willing and able M.D. in the Washington area, who urge us forward.

YOU CAN HELP IN A NUMBER OF WAYS:

1. By becoming a Contributing Member if you are now a Regular Member. Or, a Life Member if you are so fortunate in your circumstances. However, those of you who are close to the line financially, please do not let us place any pressure or obligation on you. We are grateful to have you with us no matter what.
2. By making a contribution for physical facilities. (To the best of our ability we will work toward having facilities for you, or anyone in your family, should they be needed.) See form below.

.....

NAME _____ ☐ A contribution for facilities.

ADDRESS _____ ☐ A Contributing Membership.(p.7)

_____ ☐ Life Membership. -See page 7.

Amount enclosed _____. Check preferred, made out to the Life Extension Society. ☐ Membership-subscription renewal.

THANK YOU SO VERY MUCH FOR YOUR HELP.

Please mail to: LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C.
20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



CRYO-CARE CRYOGENIC CONTAINER FOR HUMANS
SHOWN ON TV IN NEW YORK. -Photo courtesy
of Karl Werner.



Jean-Paul Burtin, Roland Missonnier, Claude
Mallia as pictured in the French press.

FRANCE EXPLODES WITH YOUTHFUL, ZESTFUL LES ACTIVITY.

In Paris, Andre Chareyre says good-bye to his LES Coordinator's position and desires to be frozen immediately. Andre is a handsome vigorous 33, with an unimaginably beautiful wife of 24. He is working on his doctorate at the Sorbonne in psychoanalysis and is interested in politics. He loves life and a good laugh. But considering everything he wishes the honor of being the first person frozen. Considering everything, his wife agrees.

Turning for a moment to Lyon, Roland Missonnier, LES Coordinator, has made an immediate conquest of the press. He has been instrumental in getting at least five newspapers to carry a long article about the freezing possibility,

© 1966

and radio broadcasts which have carried the idea to both areas in France and Germany. Friends and others interested have been formed into a group of a good dozen for Lyon and surrounding region.

If Lyon is bursting into flower, LES in Paris is distraught, agitated, and at sixes and sevens. There are various reports, all of which are not clear. However, if we understand Chareyre's position and suggested program it is as follows: 1. LES and the freezing forces should make a whopping frontal attack on the Catholic Church and various other major parties. 2. There should be a general language reform along the lines of General Semantics. 3. As long as LES is so slow and pokey a separate French freezing formation should be created to implement the objectives above. 4. Andre Chareyre wishes the honor of being the first person frozen and offers to do this immediately.

Some of our more suspicious LES readers will jump to the conclusion that Chareyre has a radical or possibly Communist approach. However, according to today's Washington Post the French Communists "offered the Party's hand to people with Christian beliefs" and "respect for the convictions of every one." French politics are very confusing.

Marc Collet, who heads LES coordinating activities for France, suggests that although Chareyre's offer to have himself frozen is generous, freezing is only a last chance alternative. It would be better not to be a guinea pig at this time when the state of the art is so little advanced. Freezing is advocated for those who are immediately faced with death or who have just died, but not for those with years of life ahead of them. LES policy should be based on reason and scientific hope, with full recognition of the dangers, but not on romanticism.

Several LES officers in Washington, with no knowledge of French politics, nevertheless observed that if the new Parisian freezing forces did overwhelm the Catholic Church and the major political parties, that would take all the life out of French politics and religion. Then where would Andre Chareyre be?

PITTSBURG EXPLODES WITH YOUTHFUL, ZESTFUL LES ACTIVITY !

If Paris is temporarily fractured by advanced theory; if Lyon has done wonders with publicity and organization, Pittsburg has had a surge of activity in the press, radio, TV, and scientific demonstration.

The credit goes to the whirlwind activity of Forrest Walters, LES member and head of the firm Continuelife. Walters arranged an LES meeting at the University of Pittsburgh at which a small monkey was perfused and cooled before the audience by two veterinarians. One of the purposes was to show the audience some of the generalized procedures which will eventually be used in perfusing and cooling humans. Part of the meeting was filmed by TV cameras and later broadcast to the greater Pittsburgh area.

To arrange this LES meeting and scientific demonstration took courage, initiative, and it was expensive. However, it did introduce the idea to many people; it resulted in TV, radio, and speaking engagements for Forrest Walters, and he feels the whole experience has done wonders for him personally. His firm has its headquarters at 131 "C" Street, Latrobe, Pennsylvania and is approved by the Pennsylvania authorities to sell stock. More details on the perfusion and freezing of the monkey as we receive them.

NEW YORK CITY ACTIVITIES: BOB ETTINGER ON MERV GRIFFIN SHOW

Further dissemination of the freeze-wait-reanimate idea was obtained with Bob Ettinger on the Merv Griffin show. The performance was taped during the second week of March for release at later dates. From reports, the performers and audience were psychologically on edge which made the show more emotional than rational in parts. However, with such extremely fortunate press, radio, and TV the movement has experienced so far (including a previous excellent Merv Griffin show with Bob Ettinger), it is only natural to have a less than sensational broadcast occasionally. It remains invaluable exposure.

FREE WHEELING WIDE RANGING DISCUSSION AT WASHINGTON LES MEETING MARCH 8TH

Attention in discussion was especially focused on three M.D.'s, two of whom were against freezing now, and one who was staunchly for freezing now if the person who desired it was immediately faced with death. (This was the latter part of the meeting after the usual report of monthly activities, and discussion of problems.) The pros and cons are as follows:

<u>OBJECTIONS TO FREEZING NOW</u>	<u>FOR FREEZING NOW</u>
1. Cryogenic suspension is open to exploitation.	1. Anything is open to exploitation: charity, research, love, etc..
2. Future scientists cannot repair damage done by imperfect freezing now.	2. Extremely dogmatic to say science <u>can't</u> solve present technical blocks. How could one <u>know</u> now?
3. It would be much better to put the money and effort that would go into freezing into research now.	3. You condemn the dying to oblivion, whereas they have a <u>chance</u> thru freezing. If you start freezing now, it may generate hundreds of times the amount of research.

Perhaps a more fundamental block to freezing was the doctor's (or doctors') belief in some type of undefinable afterlife. Whereas the M.D. for freezing was doubtful of such a thing. Interestingly, a Mussulman at the meeting, i.e. a follower of Mohammed, said he saw no conflict between his religion and freezing.

The following practical problems were broached or discussed. If any LES members or readers have information or suggestions toward the solution of these problems please write in:

1. Locating a building or physical facility near Washington, but in Maryland (because our M.D.'s licence is in Md.) for experimental freezing and storage.
2. Getting freezing into physical application, ideally with perfusion and freezing with hope of revival.* But if not ideally then obtaining a body for experimental freezing only. *(distant future)
3. Can LES cooperate with a profit making company in nonprofit research?
4. Will an annual LES conference in late September or October 1966 be an improvement over New Year's Day and acceptable to all?

THE NEXT LES WASHINGTON MEETING will be at the home of Dr. and Mrs. Gouras, 6309 Crathie Lane, (near Glen Echo or off the Beltway at River Road) Tuesday, 8pm, APRIL 19TH. The THIRD TUESDAY this coming month.

R.C.W. Ettinger's The Prospect of Immortality, Macfadden, 75¢ is now in most paperback book outlets: drugstores, supermarkets, newsstands, etc.

REPORT ON LES APPEAL FOR FUNDS TO OBTAIN PHYSICAL FACILITIES

We are proud and fortunate to report a most generous response to last month's request for funds. We should like to give credit to our contributors by mentioning their names in the newsletter. This will be delayed until probably the following newsletter to check permission in some instances. Until then accept our heartfelt thanks for giving additional life and force to LES. We can't thank you enough. So let us turn to some of these amazing details.

One of our members in Chicago, who wishes to remain anonymous, realizes our great need for a building where we could meet, store our equipment and library, have a lab and an emergency clinic. She believes that such facilities are also needed in coordinating cities. She has sent us a contribution of \$500 out of her pay check toward this goal. She wonders if we should not plan in the next year or so to buy a building, preferably with rent income possibilities, on a small down payment with a long-term mortgage. At present she could loan us \$17,000 at 5% interest. She asks if other members see this need and could make a contribution toward a down payment and, or loan us some money for a mortgage?

It appears that checks turned in, including the above generosity, amount to \$825 that could be used as a down payment. A few others have said that they also intend to contribute in the near future. Over twenty persons have contributed so far. Thanks again to everyone.

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INSURANCE

LES will move toward accepting Employer's Life Insurance Company's offer of life insurance unless better offers are obtained shortly. It seems important that LES offer some insurance without delay. We do not have complete information of the insurance industry. However, Employer's Life has the best rates that we know of and that company has offices in 60 countries.

More complete details of the Employer's Life offer were reprinted in the January 1966 newsletter. The following is a review of part of that offer to give a general idea of what is available.

Representative rates are shown below for three of the plans. The term insurance has guaranteed rates for five-year periods, is guaranteed continuable through age 70, and is convertible at any time. The whole life insurance is payable until first death. (That is, when a person dies or is put into cryogenic suspension.) The ten-pay life is payable for ten years, then pays the full face amount whenever first death occurs. The rates are subject to 5 or more lives. That is, LES must have 5 or more persons who wish to take out the insurance, and \$2.50 is the minimum amount that a person may pay for his or her insurance per month.

If you wish \$10,000 of ^{term} insurance, your age is 30, you are male, you pay \$5.08 per month. (Female \$4.80) \$14.10 and \$13.40 respectively for whole life. \$38.00 and \$37.80 respectively for ten-pay life. Age 35, \$5.83 and \$5.35 for term. Age 40, \$7.34 and \$6.40 for term. Age 45, \$9.40 and \$8.08 for term. Age 45, \$24.15 and \$21.54 for whole life. Age 45, \$56.20 and \$52.53 for ten-pay life.

If you are interested in insurance for freezing, and you haven't informed us as yet, please do so.

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HUMAN HIBERNATION ARTICLE IN THE APRIL ISSUE OF PAGEANT

Robert Prehoda, a manager of corporate market research for a California firm, and a founding member of the Society of Cryobiology, has written an informative article for the magazine Pageant. Apparently he believes that suspended animation through freezing humans right now is an "outlandish proposal" or one of the outlandish proposals that one hears nowadays. However the drift of his article is that human hibernation and suspended animation will come into practicality if sufficient funds are pumped into this research. He suggests that if 200 million dollars were spent annually hibernation might be solved by 1975 and suspended animation through "very low" temperatures by 1985. He reports that "almost all" experts in reduced metabolism feel that freezing the dying is completely unfeasible because cellular damage done now could not be corrected in the future. They also feel that money which would go into freezing could better be spent on accelerated research.

By coincidence there is also an article on insurance by Prof. W. T. Reich of Rutgers University. He suggests that term insurance is your best buy.

LETTERS TO THE EDITOR

Dear Mr. Cooper:

AN URGENT PERSONAL INCENTIVE

... I am 56 years old and have a life expectancy of perhaps 12 years. As you can see the millions of people in my age group have an urgent personal incentive to support life extension. In brief if anything is going to happen in this area to be of benefit to us it must happen in the next 5 or 10 years. So we have an important incentive to accelerate the program if possible.

I have a few thoughts which would accelerate the program and also make it more acceptable to our age group. Mainly they concern the terminology with which the program is being presented to the public. There is no disagreement with the goals or substance of present methods and we appreciate and congratulate pioneers like yourself for having the courage to go forward. I intend to draw up a mono-graph of my suggestions within the next month or so and submit them to you. In this letter I will confine myself to one thought.

At present the program is based on a new (new at least to the public category of death, i.e., "clinical or reversible death". Rather than creating a new category of death the program would be much more palatable (and perhaps more accurately described) if we could have a new category of illness for which a cure is now being urged. For thousands of years when a person was dead then he was dead and there was nothing more to be done about it. This belief is very deeply imbedded in human consciousness and it would probably take generations to change. On the other hand we can accept a medical cure for almost any illness, including that illness which was formerly referred to as "clinical death". No doubt there is a good medical term for this condition - perhaps "complete bodily non-function" will do for the moment (a better term will certainly have to be developed).

In event a sick person was certified by a doctor to have attained the state of "complete bodily non-function" then he would be eligible for "medically approved cryogenic process" (and not cryogenic interment, which is a term to be avoided). The fact that this cryogenic process might take 10 or 20 years or longer has no bearing on the case. How-

ever it would not take place in a cemetery or mortuary or freezeatorium - but in a hospital annex (which annex does not necessarily have to be located near the hospital) and it would be under medical (not mortuary) administration.

I suggest that this program needs the millions of people in our age group (over 50 years) because these are the people that need this program. However our instinct tells us that death is in God's province and it not reversible - but, our intellect tells us that modern medical science can (or soon will be able) to cure almost any illness (again, including that illness formerly known as "clinical death"). What we want to accelerate this program is the support and approval of our government, religious and medical leaders. We are more likely to get it for a medical program rather than a "reversible death program".

Personally I am very sincere in urging this change in terminology. To my mind a person is not truly dead (in my concept of the word) no matter if he has been frozen for 50 years. Very sick perhaps, but not dead.

Very warmest regards,
L.P.F. San Diego, California

Dear Ev Cooper,

YOUTH AND MATERIAL IMMORTALITY

My eight-year-old son has had the natural and normal difficulty of coming to grips with the notion of death, complicated by the fact that his father died in a brutal accident. I have never been able to reassure him by promises of Heaven and angels singing and eternal bliss. You can imagine his elation at hearing about the possibility that one day his life can be prolonged, and at his age he translates this into material immortality. One night as I tucked him into bed he invited me to join him in a solemn pact - whichever of us dies first, the other promises to have him(me) frozen. I walked away thinking of this as the space-age scene that replaces the traditional bedtime scene of mother and son at prayers together. Well, we have other ways of praying, too.

Since we are talking now about taking our pets with us, who is working on ways to preserve my favorite books, paintings, snapshot albums, my grandmother's old upright piano, withered rose petals and two children's worth of Mothers Day cards done by hand?

Yours,
Marjorie Johnson, Painesville, Ohio

VIEWPOINTS OF DOCTOR, LES MEMBER, AND SON

Dear Ev,

...A doctor on the staff of a large hospital here has given me an answer which was verbatim "You want to be frozen...? So I'll freeze you. ..I'll have to find out how". His first reaction was to want to know why I would want to be here a 100 years from now, and I told him maybe I wouldn't...but I'd give a million to know and see what's going on. He said he laughed when he first heard talk about men going to the moon ...now he doesn't laugh anymore about a new thing. ...

Need I say... I sincerely hope to be "frozen" or, in the event that deterioration for one reason or another prevents possibility of eventual reanimation entoto...then I would like to have any part of the corpse or all of it completely at the disposal of any courageous spirit who might want to experiment. My greatest hope would be the eventual reviving (even if temporarily) of whatever constitutes the curiosity of myself -

for a long enuf period of time to "see" what happened! Good, bad, or indifferent. There seems to lie within my inner nature a bull-headed insistence on individual continuation. However, on the plateau of contemplation, that same individual persistence would likely yield quite quickly to a spirit of adventure when it comes to relinquishing this very inadequately integrated assemblage of parts to the future possibility of a "new" individual, or even being part of a number of "new" individuals who are integrated and useful. ...

We now have a new family threat at our house. If you don't do this or that as requested ... "I won't freeze you"....

Another interesting reaction is the immediate and uncomplicated acceptance of my young son 10 years of age. ... I told him that if his Dad respected my wishes and I did become a "freezee", that I was giving my permission to be dismembered and anything done that would be needed by the people in whom I put my trust. His comeback was "Yeah..I know.. I'll probably walk down the street and have to say "Hi, Mom's arm...Hi, Mom's leg". This was the afterthought that came from my deliberately put statement that he might not have a chance to miss me, in the usual sense of the word, because I might still be around in some form or other. I've long recognized the innate ability of children to accept anything at all as a possibility within the realm of norm if they are not chained down with the narrowminded concepts of adults.

Best regards,
Suzy Que, Chicago, Ill.

MAN'S BEST FRIEND, AND GENERAL REACTIONS FROM OTHERS

Dear Mr. Cooper:

Thank you for the information you sent. I am enclosing our duplicate freeze cards and one for our dog, a five year old Chihuahua. ... When we have made arrangements for the storing capsule, we wish his body to be placed in it, at the time of his death. He is small and will not require much room.

Several acquaintances have displayed interest in LES but none seem ready to commit themselves, at this time. We realize we are in the minority in this part of the country in our beliefs and philosophies.

...The people we have talked to about life extension have not really been appalled. They just aren't ready for it themselves as yet and, of course, some will never be--especially the older citizens. We would never try to convince anyone to use the freezer rather than the grave, because this is a very personal decision. While I myself never hesitated for a single second in regard to this new concept, my husband was not quite so eager. . . until he had heard more about the experiments that have already been carried out.

Sincerely,
M. Eve Morgan, Miami, Oklahoma

PROBLEMS WITH FIRST EXPERIMENTS

Dear Ev,

Enclosed is my freeze-card. It's signed with my address and the date of which Tom, a friend, and I performed our first experiment.*

About the fish, I'm afraid there is little to tell. I wasn't present at the freezing of the first fish but I know that it didn't survive. It probably wasn't frozen quickly enough. We performed two experiments on the second fish. First we put it into a plastic container with enough water to cover it. Then we sprayed ethyl chloride around

the side of the container hoping that it would evaporate quickly enough to freeze him. It didn't, but it cooled down the water enough to slow down the fish's metabolism so that he almost died from the cold. We took him out of there as soon as we saw that this method wouldn't work and returned him to normal temperature. He quickly recovered. Then searching for a better method we put him into the container again. We put the same amount of water in but this time we sprayed the ethyl chloride on the surface of the water. In a few seconds he was completely enclosed in a solid block of ice. Then we placed him in water at normal temperature. At first we were sure that he suffered the same fate as our first experiment did because he simply floated belly-up in the water showing no signs of life. But soon we detected slight gill movements and spasmodic jerks of the fins. In a short while after pulling him through the water to force more oxygen into his gills he recovered enough that we thought that we had succeeded. He reached his top condition in a few minutes but then began his slow decline. Body tissue was coming off in great quantities and we knew that he didn't have a chance. About half an hour later after pushing, pulling, and prodding him in an attempt to restore him, he died.

After these two failures we were desperate with the third fish. We didn't want him to die also so we decided that it would be best to freeze him as quickly as possible, which we did through a frantic combination of spraying on the ethyl chloride and then fanning and blowing on him to get the drug evaporated as soon as we could. Using this method we managed to freeze him in a few seconds flat. But he simply never revived. As I said, we really don't know what we're doing. But when Mrs. Walton answers my letter I hope to find out what we are doing wrong. I'll keep you as best informed on our experiments after we receive her letter and can improve our technique.

Good luck in your research,

Doug Jamnicki, Camp Hill, Penna.

* Tom Longshaw and Joe Cassaro must also be given credit. All three of us were together in the experiments.

"TO ENDEAVOUR: TO STRIVE - NEVER TO YIELD"

Dear Ev,

Things are now boiling up over here. I noticed that the dog story had not appeared in any paper over here, so I sent the story to the Sunday Mirror, and it seems they telephoned Washington and got their correspondent to interview you. At least it looks like that from the write up I have enclosed.

It's smashed things wide-open, and the Daily Express reporter rang me tonight. I was taken off guard a little, and I think he is going to publish the line that I am prepared to be the first pioneer into cryogenic suspension. God's trewth! But like you, Ev, I am on a tiger's back and cannot dismount. I don't want to anyway. We are not playing marbles anymore. ... What is that saying "To endeavour; to strive - never to yield.?" ... The fight is to death against death. We've got nothing to lose.

Sincerely,

Gerald Evans, Swansea, Great Britain

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CONCERNING THE NEWSLETTER: A few apologies may be in order: Apologies to LES French members and readers for not getting a French page in this time. The newsletter is too technical, too journalistic, too trivial, not enough research, by turns. Our aim however is to face all cogent criticism, see the variety, present humor and new ideas, and still with practicality move forward to application with a sense of perspective.

LES MEMBERSHIP AND SUBSCRIPTIONS now number 490 or over.

MAIL AND NEWSLETTERS: During February 210 pieces of mail came in and 299 or more were mailed out exclusive of 530 newsletters sent out in the regular mailing February 20th. - One member, less than 700 miles from Washington reported not receiving the newsletter until March 3rd. So the mail can be slow. Seven hundred newsletters were printed in Feb. The target dates for mailing this March newsletter range from March 20th March 26th, more likely the latter.

SPEAKERS ARE AVAILABLE If your organization, university, college, or club would like to hear someone speak on the possibilities of freezing or cryogenic suspension, call your nearest LES Coordinator, or write to LES in Washington.

TAPES OF THIRD ANNUAL FWR CONFERENCE, AND BRITISH TV AVAILABLE Bill Albaugh, our LES Treasurer and conference recorder par excellence reports that a limited supply of tapes of the conference can be made. Copies of the master tape will be run on demand. This means that delivery would be something less than instantaneous. The tape is 4 hrs in duration, 7" at 3 1/2 ips and costs \$3. The voice recording of the Gerald Evans, Brian Gilbert, et al, British TV broadcast is also available. It is quite short, 8-9 minutes and will cost 50¢.

NOTE OF CLARIFICATION FROM THE CRYONICS SOCIETY OF NEW YORK, INC. The Cryonics Society of New York is a separate organization attempting similar work in the field of cryogenic storage. The costs of initiation and dues may have been understated in a previous newsletter. Their initiation fee is \$25 and \$10 dues or a total of \$35 for the first year. \$10 dues are charged for each other year, and \$10 for students.

LOSS OF AUTHOR E.G. SIBLEY FROM THE LES LONDON COORDINATOR'S POSITION. Our LES Coordinator in London is virtually being run ragged by the press. E.G. Sibley is the author of an excellent paperback book on the future, For Ever and Ever. He attempted to continue his writing pace but it is being continuously interrupted by interviews some of which are disconcerting. The reporters sometimes try to get Sibley to make sensational statements which he has no intention of making. Beyond this some of the publicity is too sensation and thus disturbing. We can't thank Mr. Sibley enough for all the trial, travail, effort, and expense that he has gone to for LES. We hope he can find peace simply as an LES member and we look forward to his future ideas on the future.

MEMBERSHIPS AND SUBSCRIPTIONS Students \$1..Regular \$2. Contributing \$5. Life member \$100. Newsletter goes with all memberships. Newsletter alone \$2. Check preferred. -How do we do it so inexpensively? We all work cooperatively such as on the newsletter and no salaries of any kind are paid to anyone in LES.

LES STILL OFFERS TO FREEZE THE FIRST PERSON IN NEED, FREE OF CHARGE, OR TO THE LIMIT OF OUR RESOURCES. This will take considerable courage and initiative on the part of those desiring cryogenic suspension and good luck and fortunate circumstances on our part. We will do our best to help.

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INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

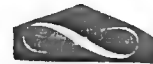
Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stage, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has graciously made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall
Caracas, Venezuela		Kurt Bantelmann
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc Collet, 54-Rosieres-Aux-Salines
Hull, England	48114 Hull	Alan Worsley
London	BEC 3290	E.G. Sibley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)667-2240	Dennis Guiley
Los Angeles	(213)348-1276	Tom Tierney
Lyon, France		Roland Missonnier
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal, Canada	(514)484-1591	Jim Clancy
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53.50-30	Dr. Emile Leclerc
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
San Jose, Costa Rica ..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(Tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski -after 6pm-

LES Information Disseminator at Yale University, Stan Drezek, does not necessarily advocate freezing but interested in LES, will answer inquiries, form an LES group if possible, and would like to be informed of advances in freezing research. 305 Osborn Memorial Lab., New Haven, Conn.

FOR FURTHER INFORMATION: Write to: LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C., USA 20036

-international- -scientific- -nonprofit- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Experimental preservation of animal organs: Dr. Richard C. Lillehei (right) about to insert newly removed canine heart into a hyperbaric tank at the University of Minnesota for storage of up to 72 hours. Dr. William G. Manax assists.

-Photo from Medical Trib.

PROGRESS REPORTED IN SHORT TERM STORAGE OF BRAINS, HEARTS AND KIDNEYS.

The revival of a cat's brain after six months in the deep freeze is apparently the most amazing recent advance in cryobiology.* However, giant strides have also taken place in the short term storage of both larger and smaller organs of dogs and rats.

A recent issue of Nature and the New York Times (Apr. 7, 1966) report successful revival of the canine brain from four and six hour storage periods within one degree of freezing. No electrical signals indicating brain activity occurred when the isolated brains were refrigerated below room temperature. No blood was supplied to the brains while in storage near zero centigrade. They were revived by perfusing oxygen rich blood at body temperature through the brain. Electrical activity indicating brain revival recommenced at room

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temperature. Electrical wave patterns were indistinguishable from canine brains which had been isolated but not refrigerated. Uncooled brains survived only a few hours of isolation maintained by perfusion via a heart-lung machine.

Doctors R.J. White, M.S. Albin, J. Vedula, and G.E. Locke completed the experiments and indicate theirs was probably the first published report of evidence of function from brains stored this length of time.

This same group from Western Reserve University, Cleveland, was first to completely isolate for several hours a functioning monkey brain. They have even transplanted the brain of one dog to the neck of another and obtained evidence of survival for as long as two days.

This is not the first time that a dog brain has been taken to zero centigrade with revival, but never for such a period as six hours. In the early 1950's Golan cooled dogs to zero centigrade briefly with successful revival.

These various experiments seem to indicate the brain can be turned off, stored under refrigeration, and revived. There is the promise of long term storage and even transplantation. These are findings that seem to strengthen the hypothesis that the human brain and body are amenable to cryogenic storage toward survival and extending the life of the individual.

KIDNEY RESEARCH AT MINNESOTA INDICATE WHEN COOLING AND PERFUSION CAN BE INSTITUTED TOWARD MAXIMUM SURVIVAL.

Experiments have been performed to verify when and how it would be best to remove a kidney from terminal patient for transplantation. Four groups of dogs were used, one group of which were kept at normal temperature as a control. A second group were made hypothermic three hours before death. In a third group hypothermia was instituted immediately after death, and in the fourth group hypothermia was started one half hour after death.

A kidney was taken from each of the 40 dogs and transplanted. Perfusion before transplanting and immediately after removal was with low molecular weight dextran and balanced salt solution. Chlorpromazine was used in conjunction with hypothermia.

= The "over-all findings indicated that protective measures to decrease renal metabolism should be instituted before death."

Drs. W.G. Manax, G.W. Lyons, and R.C. Lillehei also found they could store canine kidneys with the aid of perfusion, hypothermia, and hyperbaric oxygen for 72 hours and still successfully transplant them.

A second group of doctors at Minnesota, J.L. Haglin, G.D. Nelson, and C.R. Hitchcock had good success with transplanted kidneys from terminal patients by the combined use of oxygen under pressure, body perfusion and hypothermia at death.

A third report by Dr. V. Mirkovitch of Switzerland indicated that a cold perfusate of dimethylpolysiloxane proved helpful in storing dog kidneys for as long as 24 hours before transplanting.

*News of Dr. Suda's cat brain storage was reported in FWR, Sept-Oct. 1965, and is reported scheduled for publication in Nature shortly.

Other references or readings related to the two reports above:

White et al Nature Mar. 26, 1966. Medical Tribune, Feb. 19-20, 1966
Gollan, F. Fed. Pro. 13:57, 1954. Andjus et al Q.J. Exp. Psych. -8-1956.
Luyet, B., Gonzales, F., Growth of Nerve Tissue After Freezing in Liquid Nitrogen, Biodynamics Dec. 1953. New York Times, Nov. 6, 1965.

"RE-CREATION OF DEAD PREDICTED IN FUTURE" BY UCLA ASSOCIATE PROFESSOR

The hope of King Tutankhamen for reincarnation may be fulfilled in the future. But not as King Tut would have hoped. The problem would be that King Tut's body and brain might be created but his memories would be gone.

Elof Carlson, associate professor of zoology, predicted that King Tut could be re-created from his particular genetic code which should be preserved in his dried tissues. The reincarnated future of every other mummy is likewise looking up.

Carlson is sure that the nucleic acid crystals needed to establish the deadman's genetic code will be found in the tissue because proteins sufficient to type the blood of ancient Egyptians have been discovered.

If Carlson is right King Tut would be greatly surprised at how his royal dryness would be used to recreate his second coming. After the gene pattern had been found a synthetic cell nucleus would be made incorporating King Tut's code. The synthetic nucleus would then be encooned in a fertilized egg from which the original nucleus had been removed. If this egg were allowed to divide and multiply a prototype of the ancient king would emerge following the original by some three or four thousand years. It would be possible theoretically to make many King Tuts.

In Washington, LES member Ernest Karlson has for several years held a theory basically similar to Elof Carlson's. Karlson has advocated a more optimistic version that the genetic code could be stored by any of a number of methods including freezing and even with imperfect storage the original memory could be reconstructed. The process of growing a duplicate human to the original would be much the same as advocated by Carlson, but at a rapid rate which should be possible in the future. Then the old memories would be placed in the new identical body and brain.

The various Karlson-Carlson Hypotheses (or Carlson-Karlson) would seem to lead to a host of new and imagined possibilities:

1. What will be the reaction of the scientific community to these ideas, especially to the King Tut possibility?
2. If accepted would it lend support to the freeze-wait-reanimate hypothesis? Freezing would preserve the memory and alternative ways of reanimation would be open. (reconstruction, re-creation)
3. Might it be conceivable to consider genetic code banks in conjunction with memory banks -in the future? Genetic patterns could be stored by freezing, freeze-drying, or drying. Storing memories continuously up-to-date looks difficult. Perhaps in part by special TV to the memory bank continuously?
4. Will the King Tut possibility tend to shift burial customs slightly? (For those who don't arrange freezing.)
5. What are the limits of the King Tut possibility? A speck of dried tissue found in one of Bacon's or Newton's old books? A hank of hair? Consider the thousands or millions of organic relics claimed by individuals, churches, and institutions: hairs from Noah's beard, etc.?

* * *

LES MEETING IN LOS ANGELES, FRIDAY MAY 13TH, 8PM This meeting will be held at the home of Helen Kline, 2541 Elsinore Street, Los Angeles. Kindly call her before coming (DU 2-7659) and ask if perhaps she needs help with anything.

LES APPEAL FOR FUNDS MET WITH AN EXTREMELY GENEROUS RESPONSE

LES is very fortunate to receive such an excellent response. It appears as if we now have enough funds on hand to seriously investigate purchasing a building for storage facilities, lab, etc.

We will try not to make invidious distinctions by mentioning exactly how much each person contributed and merely list the names of contributors except in one unusual instance. Late last month we were stunned to receive a \$1000 check from Tom Tierney, LES Coordinator and Life Member.

To add to this good fortune our hard working LES member in Chicago (who prefers to remain anonymous), who had previously offered LES a \$17,000 loan, volunteered to increase the loan to \$25,000.

It is almost too good to be true. Our heartfelt thanks go out to one and all and to those of you who have done so much work for LES and often incurred considerable personal expense in the process. Thanks again to everyone.

Contributors listed below. Apologies to those we might have missed or those we didn't list not knowing whether some might prefer anonymity.

Marvin Schwartz	Thomas McIlvaine	Bill Albaugh
Marie Phelps-Sweet	Don Goshorn	Michael & Sherry Hart
Helen Kline	Cliff Payne	Robert & Sandra Shapiro
Morris Appelbaum	Tom Tierney	Marjorie Johnson
Chester Waters, J.	Peter Gouras, M.D.	Prof. & Mrs. E.W. Walton
John H. Prince, Jr.	Larry Klar	Bob Ettinger
"Suzy Que"	Stan Pawlowski	Dennis Guiley
Mary Evar	Ev Cooper	Gerald Feinberg
Other anonymous contributors.		

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PUBLICITY: ARTICLES, INTERVIEWS, TV, RADIO, AND NEWSPAPER STORIES

The following is a brief listing of some of the publicity given to the freezing idea. MacLean's, a Canadian magazine, had an especially welcome article on freezing and LES.

Forrest Walters	Many radio and TV interviews, Pittsburg and Philadelphia.
Ed Hope &	
Bob Ettinger	Mike Douglas Show: 3/21, 3/28.
Ed Hope (Cryo-Care)	Arizona Days and Ways, March 20.
Forrest Walters	Latrobe Bulletin, March 19.
Alain Guy	Times Variety, Manila, March 27.
H.L. Schrader	Hamburger Abendblatt, 9 January.
"Mandrake"	Sunday Telegraph, London, 16, January.
Alan Edmonds	MacLean's, April 2, 1966.
Gordon Donaldson	The Telegram, Toronto, Feb. 4.
Bernard Soulie	Derniere Heure Lyonnaise, Mar. 1, 2, 3.
Gilles Lambert	Le Figaro Litteraire, Feb. 3.
Robert Prehoda	Pageant, April 1966, & on TV in Calif.
John Flynn	Alan Burke's Show. March 26.

INSURANCE

LES has been moving toward accepting Employer's Life Insurance Company's offer of insurance. However, offers from other companies are now coming in and we may need more time to evaluate additional proposals.

THE FIRST HEAD OF THE HYDRA

By a Contributing Editor

Deeply entrenched in the minds of some is the conviction of the moral efficacy of suffering and death. This is only one of the nine or so heads of the hydra that LES will have to sever if it is to meet its goal in winning full public acceptance for any attack on death. Incomprehensible to those who are not acquainted with the idea, to others it has real force; for it serves as a psychological stronghold against the uncertainties of a world which fails to correspond to human expectations. It comes about through a subjective process by which these expectations are projected onto a not yet thoroughly humanized environment. To these people, understandably (because they are human beings and have a basic love of order and purposefulness), there must be a reason for everything, and so there is a reason for evil. It makes us better people.

Yet better for what? Unfortunately, better for withstanding more evil. The argument is circular. If an evil can be removed, in fact, true virtue ought to lie in removing it. Let facing evil and overcoming it be the moral task, and let success leave us so much the more capable for the next trial, from wherever it may come. If some day there will not be so many hardships, then why should we not, after these last 9,000 odd years of growing pangs, use our new leisure to review the human experience, to determine what we are, what our destiny might be, and to search out just what measure of variety and manner of living contributes the greatest sum to the common welfare of all people?

Let us imagine a world with a stable and enduring population. No! I did not say static, but stable, a reasonably predictable world that is not of death's kingdom, where love endures in friends who do not pass away, and virtue and wisdom flourish without hindrance. This world would have, perhaps, a reasonably controlled birthrate geared to a flexible plan for planetary colonization and expansion outward toward the stars. Such people will have become like gods. Is it unlawful? Is it wicked for them to have become so? No. This was their dream from the beginning. This was what they had in mind when they dreamed the gods in the image of that which they themselves wished to become. It is their right. That is what the suffering was for.

This notion of the moral efficacy of suffering must be an age-old rationalization, but the clearest source to which it is traceable is the stoic Seneca's De Providentia, written under the gloomy shadow of the Roman emperor Nero in the first century A.D. Can it be out of place to suggest that times have changed since then? The principal difference between our age and theirs is the idea of progress, of which the ancients had only dim and intermittent glimpses. The notion of the moral efficacy of suffering is tied fast to a static world, one in which misery is repeated in wearisome cycles and never resolved. Once the idea of progress is introduced, the world becomes rational again by virtue of its movement toward a telos or goal. People, with their penchant for aims, can be seen either as the goal-setting, purposive part of nature, or, if that is too anthropocentric, as the expression or embodiment of a purposefulness that exists throughout the universe

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for people, if they would only see themselves objectively, along with even their most seemingly artificial creations, are all a part of nature. When they direct their action toward a goal, their world becomes meaningful to them, and Providence becomes dynamic.

Certainly the faith that man can, given sufficient knowledge, control his fate is better placed and even more humble than the presumption that man knows now, by one revelation or a multitude, the nature of the Absolute!

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LETTERS TO THE EDITOR

REQUEST TO SPONSOR RESEARCH

Dear Ev,

I have formed a company called Bio-Preservation, Inc. for the purpose of manufacturing and selling capsules. Part of the profits will go to a non-profit corporation (Cryo-Medical Study Group) to do research. I have felt for a long time that LES could do well to have some sort of sponsorship of research in their program. As you know, I plan to put the first capsule into a research situation, no profit to me, a sort of contribution. Can LES participate in the research on monkeys which we have planned? Each chapter buy a monkey or something like that? We'll be working in a very fine research center, nothing sensational, just the hard, basic work which must eventually be done. We're hoping for the Nobel Prize of course. Seriously, I can't swing the whole research program myself and I don't expect much from the manufacture of capsules in the near future.

I'll be working with a very fine M.D., a specialist in transplantation of kidneys; he's worked at these low temperatures with animals for years. Does it sound like something your group would like to participate in?

Very truly yours,

JOHN FLYNN

-New York City

Dear Mr. Cooper:

CONCERNING: INSURANCE, POPULATION CONTROL, AND CRYOGENIC FACILITIES

Concerning Life Insurance

Policies. These policies presently read about as follows: "In the event of the death of John Smith then the sum of - \$10,000 - will be payable to the beneficiaries."

This wording should be revised to read "In the event of the suspended animation or death of John Smith then the sum of - \$10,000 - will be payable to the beneficiaries." Policies now in force should be amended to include this wording. New policies to be issued in the future should be revised to include this wording.

I believe it would be productive to bring this idea to the attention of the Planned Parenthood Association and its units. I would guess that the type of person belonging to these Planned Parenthood units is well educated, intelligent and has a reverence for life. They are interested in Birth Control as a means of improving the human condition. I believe they will be equally interested in "Death Control" as a means of improving the human condition. If LES members could bring the theory to the attention of a large and well organized group like the Planned Parent-

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hood Association it might be a very good thing.

In California, Florida, Arizona and other states there are many retirement apartments, communities, etc. The developers usually offer various community inducements such as medical service, swimming pools, whirlpool baths, sauna baths, etc. Perhaps they could be persuaded to offer "Emergency Cryogenic Facilities". Perhaps one could envision within a very few years an elderly couple talking to a real-estate sales-man and saying "Why we would not think of living in a retirement community unless it had the best of Emergency Cryogenic Facilities!". Then the developer would necessarily advertise that he had such facilities.

Most sincerely,
L.P.F. San Diego, California

THE GREATEST ADVENTURE OF ALL A reprint of part of Gerald Evans' article "A Dog In Deep Freeze" where the author answers his critics. Originally published in the Quarterly Journal of the British Amateur Scientific Research Association (19 Sherwood Road, Liverpool 23), Vol. 2, No. 5, March 1966.

Mr. H.G. Jones, however, in his thoughtful letter, really puzzles me. He finds the idea of immortality repulsive! I belong to the same species and I find death repulsive! The possibility of longer, or even indefinite life, is a wondrous thing. Measured against the cosmic scale of time the human life-span is but a micro-second of agitation. Surely something with the complexity of the cerebral cortex of man needs a few micro-seconds more?

Many timid people seem almost to apologise for the fact of being alive; as though they had no right to live at all. Perhaps this is because religious elements have persuaded them that they were born in shame and sin, and their extension of life is in the form of animated mist in a hereafter, after dreaded judgement. These same pristine philosophers warn people against interfering with so-called natural laws. By their creed, people who die young from terminal diseases are only fulfilling destiny. I am sure that the dedicated few who are now scientifically fighting cancer, or trying to crack the mystery of ageing, think life worthwhile; and so good that they want a bigger share out of endless time, to live on in a universe where surely oneday infinite room for them will be available. To the mathematics of space and time, three score years and ten are microscopic marks on the immeasurable page that carries the arithmetic of eternity.

Evolution has finally evolved a brain possessing a cosmic mind, and such a wondrous organ demands more than a mere peep at life and quick departure into the tongueless silence of the dreamless dust.

The argument would seem to be that there is infinite time available but a reducing space. Sooner or later, a decision will have to be made between longer individual life or an overcrowded nightmare existence on this planet. In the latest British Medical Journal, for instance, a plea is made to make all forms of contraception free through the National Health Service. It is made by one of the world's leading childbirth specialists, Professor William Nixon of London University College Hospital, who urges that people should be freed from the tyranny of excessive fertility. To this, I say, should now be added the possibility of planning for reanimates in the future as well. -continued-

THE GREATEST ADVENTURE OF ALL -continued-

At this point in time, however, I cannot see a huge stock pile of frozen people accumulating for a long time. Devout religious people will shun the idea; those who are ashamed of the precious gift of life will want termination as soon as possible. Millions more will continue to die under violent circumstances or in solitude which will make them useless or unavailable for cryogenic suspension.

The Freeze-Wait-Reanimate principle will bring its own tragedies in the early stages; but for those who can make it, it offers entry into the greatest adventure of all. Man cannot afford to build lower than the stars or throw away the thousand million years of time it has taken to perfect him.

There is a pressure on man to control his own destiny against the blind forces of nature and to banish all those things that make this earth a vale of tears. I am conscious of this pressure, and I AM NOT ALONE. We must be destined to participate more and more in the splendours of the universe!

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LES MEMBERSHIP AND SUBSCRIPTIONS now number over 535.

MAIL AND NEWSLETTERS: During March 213 pieces of mail came in and 331 or more were mailed out exclusive of 525 newsletters sent out in the regular mailing March 20th -about a week earlier than expected. Seven hundred newsletters were printed in March. The same number are expected to be printed this month with April 24th as the expected date of mailing.

NEXT WASHINGTON LES MEETING will be at the home of Dr. and Mrs. Gouras, 6309 Crathie Lane, (near Glen Echo, or off the Beltway at River Road) Tuesday, 8pm, May 10th.

NEXT FREEZE-WAIT-REANIMATE CONFERENCE is tentatively scheduled for a suitable weekend in October 1966.

CORRECTION ON SUGGESTIONS BY ANDRE CHAREYRE Andre writes that his suggestions on policy are nowhere near as drastic as described in the previous newsletter. Added to these misunderstandings, Chareyre's father is now very ill. We hope that Chareyre continues with us and that his father's illness can be alleviated and cured.

MEMBERSHIPS AND SUBSCRIPTIONS Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletter goes to members. Newsletter alone \$2. Check preferred. -How do we do it so inexpensively? We all work cooperatively such as on the newsletter and no salaries of any kind are paid to anyone in LES.

LES STILL OFFERS TO FREEZE THE FIRST PERSON IN NEED, FREE OF CHARGE, OR TO THE LIMIT OF OUR RESOURCES FOR THIS PURPOSE. This will take considerable courage and initiative on the part of those desiring cryogenic suspension and good luck and fortunate circumstances on our part. We will do our best to help.

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES Officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES Washington.....	(202)723-5397	Ev Cooper. Or try (301)277-0246
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)658-7390	Art Quaife
Boston		Ed Randall
Caracas, Venezuela ...		Kurt Bantelmann
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc COLLET 54-Rosieres-Aux-Salines
Hull, England	48114 Hull	Alan Worsley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)667-2240	Dennis Guiley
Los Angeles	(213)348-1276	Tom Tierney
Lyon, France		Roland Missonnier
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal, Canada	(514)484-1591	Jim Clancy
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
San Jose, Costa Rica..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(Tel.book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski -after 6pm-

LES Information Disseminator at Yale University, Stan Drezek, does not necessarily advocate freezing but interested in LES, will answer inquiries, form an LES group if possible, and would like to be informed of advances in freezing research. 305 Osborn Memorial Lab., New Haven, Conn.

FOR FURTHER INFORMATION Write to: LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C., USA 20036

-international- -scientific- -nonprofit- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

THE FIRST FREEZING OF A HUMAN BODY IS REPORTED TO HAVE BEEN ACCOMPLISHED

Someone has been frozen at last! The body of an individual, for whom anonymity is desired by the family, has been frozen in Phoenix, Arizona. Information was received by telephone from a usually reliable source.

There is little or no thought that this first frozen pioneer will rise again in the 21st or 22nd century as considerable time elapsed between death and freezing. If the cooling and perfusion of the person with cryoprotective agents isn't begun immediately at death the memory which is believed a matter of fine molecular placement would soon disintegrate. As this first person was frozen long after death there is no known hope for re-establishing the original memory and thus the personality. Yet this imperfect beginning may be a step forward toward bringing an extended life to others via cryogenics.

Recently Associate Professor E.A. Carlson of UCLA predicted that a person could eventually be reconstructed from information in the dried tissues of ancient Egyptians. In a similar fashion the information in the tissues of this particular frozen person could lead to the re-creation of a structurally identical body but the personality would be new. There are no known plans for re-creating a genotypical twin from this recently frozen individual. The idea is too new. Carlson predicts it may take several centuries to accomplish, and the impression is that this person's body was cryogenically interred merely for the sake of preservation alone. As neither science nor life begins with perfection, neither has the age of cryogenic suspension begun with the faultless model.

The key to any possible return to life in the future, as far as we can guess, lies in stopping deterioration in the brain at death. The best method of stopping deterioration is perfusion with cell protectives immediately at death and storage at cryogenic temperatures where molecular activity ceases. It shouldn't be inferred that Prof. Carlson is advocating cryogenic interment or cryogenic suspension. His interests lie in his concern with the "genetic load" in human populations and the inevitable necessary genetic control in man's future. However, he does agree, as many other scientists do, that future techniques in cryogenic preservation possibly will enable the identical person with his unique personality to return to life.

Thus the person who has been dead for some time before freezing, such as is the case with this first freezing, offers no known hope of return in the future as that same person. However, under more ideal perfusion and freezing some hope of a future return could be rational. The return would be far in the future after both reanimation techniques have been perfected and aging is under control.

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FIRST FREEZING continued

The first freezing was apparently done by Mr. Hope or/& other members of Cryo-Care, a company designed to manufacture cryogenic equipment. The cryogenic container in question is essentially a thermos, similar in appearance to an iron lung, large enough to hold the person's body and liquid nitrogen as coolant. It is reported that an estimated 500 liters of liquid nitrogen were needed to initially freeze the body and cool the cryocapsule to the desired temperature (near -195° centigrade). Once the cryocapsule is cooled internally a full supply of liquid nitrogen is expected to last as long as 40 weeks. Then it must be replenished. In the future with multi-unit storage and superb insulation of modern technology, it is expected that a large reservoir of liquid nitrogen need not be refilled for years. Estimates of \$50 per year per person have been made which puts cryogenic storage easily within the realm of the attainable in the near future.

Mr. Hope, president of Cryo-Care, plans to store the capsule with its first cryo-sapient in Phoenix and has applied for permission to construct a laboratory and storage center.

Great credit goes to Ed Hope for his nerve, industry, and farsightedness. Given the conviction that cryo-preservation will eventually become accepted and even commonplace it takes courage to pioneer a new process into death's land of taboo and tradition. He was also the first to produce and show a similar capsule at the Life Extension Society's Third Annual Freeze-Wait-Reanimate Conference, in Washington, on New Year's Day 1966.

Inestimable credit also goes to Bob Ettinger who has spread the freezing idea further than anyone through his book, broadcasts, and articles.

The Life Extension Society hopes that doctors and hospitals will extend their services to help individuals who wish cryogenic suspension when oblivion would be the certain result otherwise. The individual has the human right to try to extend his life into the future if that is his desire. He has the right to cryogenic storage and his family, friends, doctors, and society should help him. Costs do not appear prohibitive. Hospitals throughout the world are the logical place where perfusion and cooling could take place immediately when needed under careful scientific control. If hospital history is any guide, storage would probably be safest for the individual under public and scientific control.

The press and the public appear to have taken the news quite calmly. So far it would seem that the public was much more interested and concerned over the perfusion and freezing of the dog, Bel, four months ago than the freezing of the first human. This forerunner of an unknown number of frozen individuals entered the icy realm of crystal-line molecular stasis on April 22nd. It was reported to LES on the 29th, and LES released the news to the press on April 30th.

LES is an incorporated, nonprofit, nonsalaried, international, scientific and service oriented society of over 560 members and subscribers from all continents except Antarctica. Our monthly newsletters have been running 9 or 10 pages with pictures, but two pages this month to get the news to you more easily and quickly. FURTHER INFORMATION:

Write: LES, 2011 "N" Street Nw., Washington D.C. Phone 202)723-5397

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FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

OUR ABSURD WORLD: FREEZING PROBLEMS AND RESPONSIBILITIES

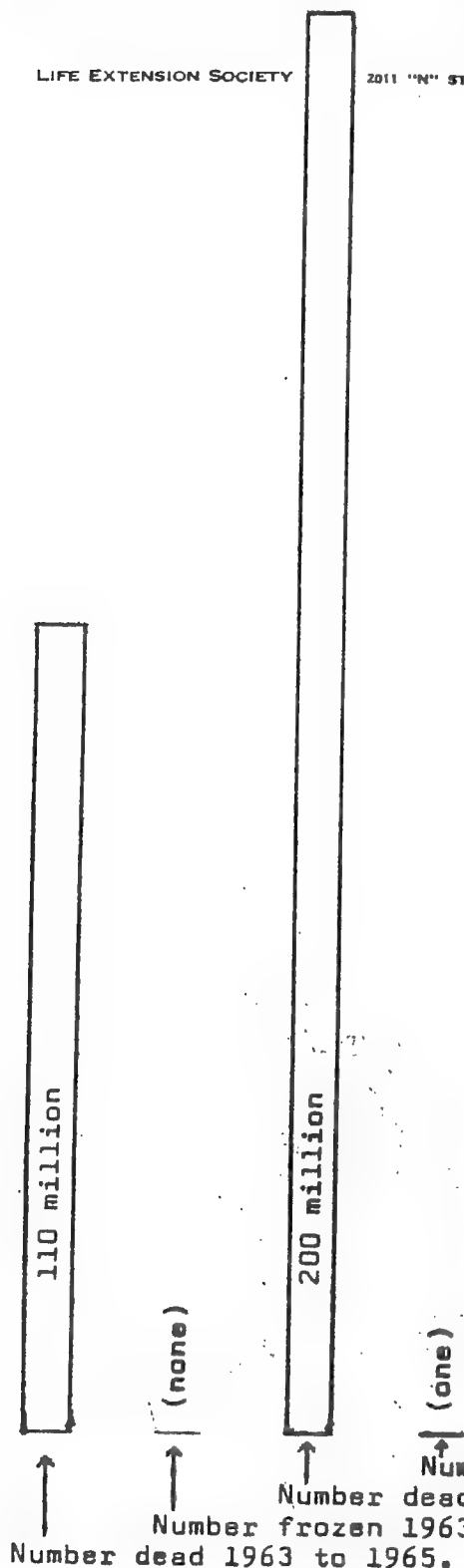
TO LES members and those interested in freezing, it is absurd that 200 million persons have died since freezing has been seriously suggested and only one person has been frozen. To others it is perhaps absurd that even one has been frozen: that an ice age in person has begun.

IN DECEMBER of 1964 we reported that 110 million had died and none had been frozen. Could anything be more incongruous? Yes, that eighteen months later the total dead had reached approximately 200 million and only one person had been frozen. The disparity between 200,000,000 and 1 is so great as to be virtually incomprehensible. How could that incomprehensible number go to their deaths with such a minute number trying for a life in the future via freezing? Where is the individualism, scientific curiosity, and even eccentricity we hear so much about?

Perhaps we should thank the stars that at last one person has been frozen, and practically make the best preparations for those who will follow. That is being done. However, as historically minded speculative beings we cannot resist remembering the past and second-guessing the future.

AS CIVILIZATION ADVANCES an unnecessary death increasingly prompts society and the law to ascertain who was responsible. The Nuremberg Trials attempted to find those responsible for the genocide of World War II. Now the New York Times reports Bertrand Russell as suggesting a trial be held to ascertain whether President

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Johnson is responsible for unnecessary loss of life in Viet Nam.

If freezing eventually results in the extension of life of those properly frozen, one wonders if we as a civilization and as individuals will be held by future ages as responsible for monumental unconcern for the disappearance of millions of individuals? But just who will be responsible? Just the leaders for not acting on information that was presented to them? Then we could continue the time honored custom of placing the blame for the plague on the king and that conveniently lets the rest of us off scot free. However, the import of the Nuremberg Trials apparently was that someone more than Hitler was responsible for genocide.

It would appear that as responsible as leaders may be for the wrongs of their particular societies the responsibility also goes deeper to any person closely connected with the crime. The Trials seemed to be saying that each individual involved must think for himself and not blindly follow the leader. The more fundamental responsibility is not to obedience or to the consensus of that particular society but to individual human life.

There are of course vast differences between wars, genocide and not freezing the dying. In genocide and wars the leader(s) and often the majority of people of that particular society say, "We agree, in this instance killing is necessary for our own preservation, etc., etc.."

Several decades after WWII scholars are still studying "what it was in their view of their victims that made it possible for them to carry out the atrocities without being overwhelmed by feelings of guilt."* Will the level of concern in our time ever rise to the point that people will be overwhelmed by feelings of guilt if they do not properly cryogenically suspend the dying or dead for a chance at repair and extended life in the future?

In neglecting to freeze the dead and dying there is no overt killing. It is eliminating the chance of a future life by apathy, ignorance, lack of faith in scientific progress, and a basic unconcern with individual life. It appears relatively certain that society, the vast majority of individuals, and even the scientific subcultures are still infected with this monumental unconcern for the life of the individual. This is the status quo: that the race would be better off with the maintenance of death. They cannot imagine the development of dynamic individuals with time. If they could imagine or become concerned they would bend every reasonable effort to freeze the dying even if it isn't known for sure right now that the cryogenically suspended person may be reanimated for an extended life in the future. It remains a good scientific bet that those properly preserved may be reanimated given enough time.

Historians in the future may look back and ask: "Why couldn't those 20th century people see that to possibly save the lives of dying individuals they would have to bank on the future to solve reanimation and aging problems? For the sake of all those individuals needlessly lost, why didn't they have some reasonable faith in the future? How could they fail to see that with sufficient scientific progress any reasonably well-perfused and frozen individual could be reanimated? How could they care so little about themselves and be so pessimistic about the future?"

Let us hope the historians also note that some goodly number did make it through via optimism, persistence, preparation, and action.

*New York Times, June 21, 1966, p.5.

CRYO-CARE CORPORATION CONTINUES CRYOGENIC CAPSULE CONSTRUCTION

Cryo-Care of Phoenix, Arizona, the corporation which has frozen the first human body for long term cryogenic storage, is constructing a new factory, continuing production of cryo-capsules, and inaugurating an advertising campaign, all under the aegis of its president, E. Francis Hope.

In an elegant booklet published by the company about their product and the freezing idea more detailed specifications of the cryocapsule are presented as follows:

Fluid Capacity:	Outer Container:
150 gallons	Material - steel ASTM A-7
Storage Capacity:	Design pressure - 15 psig
1 adult body	Proof pressure - 50 psig
Weight:	Instrumentation:
1000 lbs empty	Inner container pressure gauge
Inner Container:	Liquid level indicator
Material - aluminum	Temperature sensors with readout
Design pressure - 25 psig	Liquid nitrogen boiloff gauge
Proof pressure - 40 psig	Insulation:
	Aluminized mylar in vacuum

The outer dimensions are 34½" by 48" by 121". The inner container is 24 by 80 inches. Tests were made cooling the inner container and a simulated body. It took 700 liters of liquid nitrogen to reduce both to -195 centigrade. This is expected to be reduced by further modifications. Instructions for perfusion, cooling, and freezing the human body are included in the booklet as taken from the LES newsletter, plus other information.

Information by telephone indicates the cost would be \$3780 for the cryocapsule and \$300 per year estimated for maintenance which includes the liquid nitrogen. Storage could be arranged for the immediate future at the Cryo-Care factory laboratory (2300 E. Washington, Phoenix).

Mr. Hope has apparently done all that he humanly could to provide the technological basics at considerable cost and risk. Now it is hoped that for the safety of the individual entering cryogenic suspension hospital and medical personnel will make their services available and that eventually the storage can be placed under careful scientific supervision.

COMMUNICATION, PUBLICITY, AND THE SPREAD OF THE FREEZING IDEA

Publicity as usual has been frequent and generous. Bob Ettinger had a powerful article "Science and Immortality" in the April issue of Yale Scientific Magazine. He also got a few brickbats thrown at him in "The iceman cometh" by the extremely conservative Russell Kirk who mistook the part for the whole, in Book Week, May 22, 1966.

We were stunned to find that Confidential, a magazine with a lurid reputation, ran a perfectly straight story on the freeze-wait-reanimate idea, July, 1966. There may have been one exaggeration (far fewer than the usual article on the subject) that we had cooperating doctors everywhere. We have a few doctors willing and behind us, but not everywhere.

There have been so many articles, stories, and news notes of the idea in France that it makes our heads swim: "Les Marchands d'éternité" in Crapouillot, Juin-Juillet 1966. "Le Froid et la Vie" in L'Echo de la Mode #15. "Ne mourez-plus,..." in Lyon Inter Magazine, April 1966, and many others. Many thanks go to Roland Miasonnier and his friends who

have been so instrumental with publicity and LES activity.

In Britain, Gerald Evans was interviewed on B.B.C. on May 22nd and again on television (T.W.W.) on May 25th. The newspaper Western Mail carried an interview of Mr. Evans that same day in which he was quoted, "I am convinced that if a human body is stored in deep-freeze after death it could be possible for future scientists to bring it back to life and rejuvenate it. There is even a possibility of this service being provided under the National Health scheme if the idea is perfected."

In the Pittsburg area Forrest Walters has continued active with a radio broadcast on June 16th and talks to various associations. In Los Angeles meetings have been held discussing possibilities for spurring interest and there are plans for a presentation of the idea on the Louis Lomax Show in the near future. In New York City, Michael Hart continues to hold meetings for potential new members and is successful in getting them to join. We are all greatly indebted to the continuing efforts of Gerald Feinberg, Professor of Physics at Columbia, for his talks before groups and his investigation of many of our problems. He especially encourages any LES members to do some hard thinking and even research on such problems as: more efficient freezers and freezing (more efficient insulation), the possibilities of instant freezing by magnetic fields, cascade freezing with no moving parts, and the effects of perfusates and extreme low temperatures on memory. From Interscience Research in Jackson, Mississippi we have had some very kind letters from Dr. Armand Karow, Jr., who has done extensive pioneering work in cryobiological research. His nonprofit research organization is in need of public support. We will try to include one of his letters in a later issue of our newsletter.

In Montreal we have the very effective efforts of the Clancys, father Jim Clancy and son Desmond Clancy. Both have been enrolling new members at such a pace that we can say that Desmond has driven LES over the 600 mark. His approach is personal through talking and writing to individuals. We hope to have him as a roving ambassador for LES when he heads for Ireland, England and Europe later in the year.

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OCTOBER LES CONFERENCE PLANNED FOR WASHINGTON DC

For three years previous LES has had a general conference between Christmas and New Year's, the last one on New Year's Day. That day is a day of total necessary rest for some LES members so there has been a strong demand for a shift in meeting date. One of the last two weekends in October is tentatively scheduled with further information in newsletters to follow.

NEXT LES WASHINGTON MEETING will be held on the third Tuesday of July at the Georgetown Public Library, Wisconsin and "R" Streets at 7:30pm.

LATE NEWS: It has just been learned by phone that Charles Adams will be conversing on freeze-wait-reanimate and death on station WVCA Gary, Indiana, Saturday evening June 25th. That one should be irresistible.

"Dying is a very dull, dreary affair, and my advice to you is to have nothing whatever to do with it."

--Somerset Maugham

THE SECOND HEAD: LIFE AND THE UNCONCEIVED

By a Contributing Editor

A thoughtful member raises another hydra's head. He writes, "...The real question which I can't answer within myself is whether the freezing of people will 'kill' unborn babies. That is, let's say 300 years from now the world is populated to the extent that we have to stop births because nobody is dying anymore. Morally do we have the right or, if you prefer, would it not be inhuman?"

We would answer as follows.

I. Potential life is merely potential.

A. Postponement of a possibility is not the same as the curtailment of life well begun.

1. Life has momentum.
2. The immorality of thwarting life is proportionate to the magnitude of the life-momentum.
3. A zygote or fertilized egg has negligible LM (life-momentum), but it does have some.
4. The unconceived, however, has no LM whatsoever.
5. Even considering the possibilities that could be realized from eggs and spermatazoa in existence now (i.e. at a given and limited time), the number of unconceived can still hardly be fathomed.
6. Almost all of these unconceived are deprived of potential life every day, and have been, daily, since Man began.
7. But the fully created human being, with self-awareness and identity, is precious and rare.
 - a. It is the vast drawings-apart and whirlings-to of the universe that, at this particular point of time, have made this particular human being.
 - b. Several billion such realized beings are not too many.
8. The unconceived are contingent; the living and the dead are necessary. The future is open and undetermined, but the living and the dead have been decided.
9. Rather than to concern ourselves for the infinite unconceived, it would be better to resurrect the dead.
 - a. Both the past dead and the future dead of those now living are real; but the unconceived are imaginary, i.e. they exist only in our minds as possibilities.

II. Worry over potential life stems from a time in our evolution when concern for the tribe-supply was dominant and life was maintained at as low a level as possible. The fire of life was banked against the day when it would burst forth from its coals. Now the tribe-supply is not our immediate concern. We have it under control. Heretofore our individuals lived and reproduced for the sake of the species. It was our only hedge against death. But we are not like army ants or bees. We are human beings rich with a future. Everyone possible should live. Man should not die and bear children to die; rather, he should bring forth on this earth a people whose existence shall inhere in and depend upon its individuals. It may be that we of this generation have begun to lay a way toward horizons we can only glimpse, of a land we may never enjoy, but it will be most noble to have built in that direction.

III. We have no reason to believe that the discontinuous creation and

destruction of the generations is better than the maintenance and improvement of the life of the individual; nor may we believe its product better.

A. These statements may be made about the turnover of the generations.

1. The fact that it is presently in force means neither that it should be nor that it will continue to be.
2. A valid test of its value lies in the question, "How does this process promote what we reasonably conceive to be the destiny of Man?" for which we find only negative answer--as follows:
 - a. "Man" is our collective term for individual human beings; Man lives and suffers through them, becomes finite and existent in men.
 - b. Thus, because Man desires to live, and dies, and lives again to die, he is like the titan Prometheus, crucified on a rocky crag:
 - i. The essential truth of this myth and certain others lies in the symbol of a suffering being who is suspended in a death-in-life existence.
 - ii. The being represents Man, the source of his own myths.
 - iii. Men have been too craven, knavish, and guilt-ridden to admit this.
 - c. Yet the destiny of Man is the will of men toward life, and happiness, and the contemplation of knowledge.
 - d. The turnover of the generations makes a mockery of all three, cutting off life, undermining happiness, darkening knowledge.
3. This present process, the turnover of the generations, is a transitional phase of our evolution.
 - a. With the advent of civilization Man slowly became aware that he is entrapped in it.
 - b. This realization has suddenly erupted from subliminal, mythical levels of thought and is flowering into full consciousness.

B. These statements may be made about the turnover's current product, the generations of men now alive.

1. Made for this world, yet homeless in it, both hoping and despairing of another world, they drive restlessly over the face of the earth in pursuit of life they cannot keep.
2. They seek to escape into mass action, collective ideology, and dogma, in which course they traduce truth, reject the evidence of their senses, despise reason and hate one another.
3. In the attempt to control death they are driven to suicide, murder, and war.
4. To sacrifice one's self and others to the future issue of such a process would be unsound.

IV. There is a moral declaration, fresh 1,800 years ago, but long since the property of common thought, that "it doesn't matter how long you live, but how well." It is an aphorism of the Greek moral philosopher Plutarch who wished in this case not primarily to state the full truth but to offer consolation in the face of the inevitable.

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- A. Earlier Greek philosophy usually held that
 - 1. Virtue results in happiness and depends upon the accumulation of knowledge.
 - 2. Virtue, closely associated with the happy contemplation of this accumulated knowledge, and with the power of right action, is both the object and the glory of living.
 - B. Although it is true that mere length of years does not make us good, especially if it narrows us, prevents us from our work, and subtracts good health, the quality of life must nevertheless be a function of both its intensity and its experience.
 - C. We at least have solid justification for believing that a long life and a good life are not mutually exclusive.
- V. The feeling that it is selfish to "take extra life" for one's self results from a confusion in the verbal expression of the sought-after idea. Life, a procession through time, which could better be spoken of in terms of maintenance rather than extension, is here treated as a material commodity in short supply, fumbled after by the impatient hands of greedy competitors. At the table of life churn the despised and harried living, a meager lot compared to the infinite file of the unconceived, who crowd behind demanding the food of life. Ahead of them into eternity troop the envious dead.
- A. The above is a poetic image, not a scientific statement. Whether pretty or ugly it is not a higher truth, it is simply a melange of undigested metaphors.
 - B. It is not even just on its own terms:
 - 1. Some linger at the table for decades, even when they hate the food.
 - 2. Others are hurried on with barely a mouthful.
 - 3. Most never reach the table.
 - C. In reality life must be something other, far too divine an essence to bruise with the crude tongs of myth and metaphor. We poets and dreamers must entrust our songs and visions to the refined thought of science, because it is science alone that has the developed subtlety to read such unearthly blueprints and tender them into reality.
 - D. No aspect of life is immune to prayerful work and hard thinking, nor shall we fail forever to understand life in moral terms acceptable to reason everywhere.
- VI. The above considerations have all been made consistent with the assumption that the extension of present life will automatically entail the curtailment of birth. Yet this may not necessarily be so. Both may be possible and desirable. We do not know what avenues the future will open to Man.
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LETTERS TO THE EDITOR

Paris, May 3, 1966

Dear Ev,

It is with great sorrow that I write of my father's death, on the night of April 21, following an embolism. I never thought it would be so quick. His body has been inhumated in a little cemetery in the village where he lived.

For me, who do not believe in death, it has been a harrowing experience. If luck would have had it that we be equipped with cryogenic material, I would have been able to save my father.

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LETTERS CONTINUED

This brings me to consider a reality we cannot elude. What good is it to inform people through the press if we do not have the technical means to give tangible proof of our works' conclusiveness? To this day not a single person has been frozen. And how could that be as long as we do not create "frigorific territories"?

Rather than talk, wouldn't it be better that we unite ourselves to gather the funds needed for the creation of our enterprise? If we wait for generous patrons to come forward, don't we run the risk to see a number of ourselves be entombed when the day of our death comes?

The Mormon people have been able to hoard up a huge fortune by establishing regular monthly dues (10% of salary). Why not do the same? Don't you agree that this course of action would be a beneficial addition to that of public information?

At the moment, we are representative of a new minority in a world running to its end because it is a prisoner of an antiquated and obsolete valuation (i.e., man is mortal).

Our minority must become strong, structured, organized.

Our mission is to awake consciences deluded by ancient negative philosophies.

We are not born to die. I am trying to teach this through General Semantics. Naturally, I have to face enormous difficulties. But the world wasn't made in a day .../...

I would now like to avail myself of the opportunity I am given to correspond with you to straighten out a few aspects of what was written about me in the last newsletter.

1. -I don't think I have ever told you, in any of my letters, that a frontal attack should be opened on the Catholic Church and other influential groups. Since you have written it, you must have heard it somewhere else. Followers of Korzybski, the father of General Semantics, do not attack anyone, and on the contrary, regret that men fight each other. I merely told Marc Collet and Roland Missonnier that in the case our thesis did not agree with that of Church and political parties, complications were to be expected. To avoid this, we had to be on the look-out.

2. -I do advocate language reforms through General Semantics (see the trouble we have in understanding each other in our letters) to the extent it would widen our vision of human life and would bring men to this brotherhood they talk so much about but haven't as yet acquired. The training received from earliest childhood conditions the least of our behavior. When we think we are acting, we are in fact being acted upon. I've had this experience a few days before my father died when talking about the freeze and reanimate program. Those who were listening, simple, friendly, amicable folks from my father's village reacted in a way which left little doubt as to the judgment they held on my words. At any rate, not one of them came up to sign the freeze card. The words we use are not the things. To convince people, we must act and not talk.

3. -It is correct that I've volunteered to be frozen ... but there is nothing romantic or generous about this. Not any more than I consider

myself a guinea-pig. Or in that case, Glenn, Sheppard, Gagarine, Leonov, etc ..., also are romantics and guinea pigs. Please, dear Ev, do not believe that I shall jump in the ice, eyes closed, yelling "Long live LES". In the case where my offer was to be accepted, I would require all care was taken to give me a chance to come back as soon as possible. Also, the experiment would have to be carried under international scientific control. Where do you see any romanticism there?

...
I won't sign off without thanking you and all of our LES friends (Collet, Dr. Leclerc, Mr. Hope, Mr. Ettinger, etc ...) who have helped in the ordeal I had to face.

Act quickly to create in the whole world "frigorific dormitories"... so that soon sons will not mourn their fathers gone in death. .../...

All my thanks, and endless best regards.

Andre Chareyre-
Paris, France

JOURNALS AND NEWSLETTERS: CRYOBIOLOGY, CRYONICS REPORTS, THE FUTURIST

CRYOBIOLOGY journal for March-April arrived yesterday, June 22nd, Nothing of unusual importance appeared at brief glance. However, an interesting article "Types of Freezing and the Post-Thawing Survival of Mammalian Ascites Sarcoma Cells" by E. Asahina and M. Emura of Hokkaido University reinforced that cells survive much better if the water inside the cells has a chance to move outside the cell through slower cooling and then is frozen than if it is frozen inside the cell by rapid freezing.

Several abstracts of articles in Russian indicate hypothermia (the condition of low temperature but not freezing) has been induced in dogs for space flight by the use of ethylene glycol (antifreeze) in a thermal suit. (Address of the society: 4200 Heathfield Rd., Rockville, Md.)

The Cryonics Society of New York began publishing a newsletter, very neat, five pages of information about the society and its activities. An important part of their effort "is directed towards the contact of people in the funeral industry." (306 Washington Ave., Brooklyn, N.Y.)

THE FUTURIST, A Newsletter for Tomorrow's World has apparently begun publishing with an advance July 1, issue. It is six pages packed with ideas about the future and books about the future. The following are worth reading:

"The Study of the Future" by Daniel Bell, The Public Interest, Fall, '65
Cyborg: Evolution of the Superman, D.S. Halacy, Harper & Row, N.Y. 1965
L'art de la conjecture, B. de Jouvenel, Editions du Rocher, Monaco. '64
Beyond Tomorrow...in Space, D.M. Cole, Amherst Press, Amherst, Wisc., '65
Introductory copies to The Futurist are free while they last by writing to Edward Cornish, 5501 Lincoln Street, Bethesda, Maryland, 20034.

MEMBERSHIPS AND SUBSCRIPTIONS Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletter goes to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. -How do we do it so inexpensively? We all work cooperatively such as on the newsletter and no salaries of any kind are paid to anyone in LES.

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DE LA PEUR EN GENERAL ET DE LA CONGELATION EN PARTICULIER

Toute l'histoire du progrès se décalque sur celle des révoltes successives contre le Père. Une génération qui se pelotonne fri-leusement dans le moule de sa précédente ne fait que piétiner. Les censures morales et idéologiques n'ont pas d'autres causes. Production de l'esprit qu'elles finissent par aliéner, elles tendent à la pétrification écrasante de leur créateur. Il en est ainsi des conventions sociales, sexuelles, politiques et religieuses qui sont devenues des tabous, intouchables au risque de culpabiliser mortellement l'iconoclaste.

Et on croit s'adresser à des adultes sains, alors qu'on n'a en face de soi que des enfants malades de peur - peur des autres races, peur du socialisme, peur de Jéhovah, peur de son propre sexe, ou peur des provocations désiroires de la jeunesse. Et pourtant les yéyés - comme les objecteurs de conscience - ne mettront jamais en péril l'ordre bourgeois.

Il m'est arrivé, il y a quelques années, de commettre de nombreuses bévues. Au cours de ma vie extra-professionnelle, j'oubliais mon métier. Ne congelant jamais que la psychiatrie s'appliquait aussi aux gens apparemment bien portants, je les traitais comme des personnes assez grandes pour avoir résolu leurs problèmes affectifs...

Depuis (et à mes dépens puisqu'elles se sont défendues par de puériles calomnies) j'ai appris que ma naïveté en avait traumatisé plus d'une. Je suis donc devenu relativement prudent, sauf, bien sûr, avec des amis de longue date qui n'ont plus de craintes et dont l'équilibre est assuré. C'est pourquoi j'essaie de contrôler mes paroles en fonction de l'interprétation qui risquent d'en faire les "petits".

Cela ne va pas sans mal et je rate encore souvent mon coup, car on ne peut jamais absolument savoir ce qui sera jugé comme "vilain": par exemple ce malheureux quadragénaire à qui j'eus l'inconscience de montrer quelques classiques illustrés de la littérature libertine et qui en déduisit que son hôte ne pouvait être qu'un paragon de la débauche et du vice. Sous peine d'angoisse, il lui fallait cette explication qui le justifiait en l'innocentant de son voyeurisme. Puisque papa n'aurait jamais permis chose pareille !

En effet, tout dépend de ce qu'en aurait pensé le Père. Hélas, les papas ont rarement raison.

Ainsi, de la mort. Les familles s'en transmettent la fatalité conceptuelle, basée sur sa matérialité inéluctable. Nous pourrions comme no parents, et c'est bien. C'est la Loi. Aller contre est blasphémer - ou, pour le moins, saugrenu. S'il est encore vivant, demandez à votre père ce qu'il en pense. La réponse est connue d'avance, puisqu'il prétendait qu'il y aura toujours des riches et des pauvres, et qu'il ne se faisait pas d'illusions sur la nature humaine. Or, aux U.S.A. et en Europe, des gens très sérieux envisagent de réaliser un programme de congélation utilisable chez tout individu en état de mort clinique, c'est-à-dire dans les minutes qui précèdent l'apparition des lésions organiques irréversibles dont l'écoeuvante putréfaction est le stade ultime. Ceci afin (l'équilibre biologique ainsi suspendu indéfiniment grâce à un procédé parfaitement au point, et déjà réalisé) d'attendre que les progrès scientifiques permettent de décongeler sans dommage, ayant du même coup trouvé remède à la maladie mortelle.

Cet invraisemblable prolongement de la thérapeutique pourrait, dès à présent, être appliqué à certains cas désespérés, tel que celui des enfants leucémiques à l'agonie.

Les objections "paternelles" ne manquent pas. Si nous écartons, parce qu'injustifiables, celles qui justifient la mort, il reste celles qui soulèvent les énigmes innombrables, imprévisibles de la réanimation et du sort des "décongelés". Il faut en effet un véritable acte de foi en la science, c'est-à-dire en l'avenir de l'homme pour proposer un tel bouleversement de nos conventions. Et il y a aussi ceux qui pensent que le problème de la paix au Viet-Nam est plus urgent que celui-là, comme s'il ne s'agissait pas de la même chose. D'ailleurs, il est possible de mener de front plusieurs combats qui ne visent qu'un même but: vous protéger.

.....Le groupement américain s'appelle la "LIFE EXTENSION SOCIETY" son bulletin s'intitule "FREEZE-WAIT-REANIMATE".

En France, le promoteur de cette idée est M.Marc Collet, Rosières aux Salines, Meurthe et Moselle.

Ecrivez-lui de ma part pour lui demander de plus amples renseignements. Ou bien achetez le livre du Professeur R.ETTINGER "L'homme est-il immortel", préfacé par Jean Rostand.

....Si votre mépris ironique - qui est une réaction de défense contre la nouveauté de la "mort-problème scientifique" ne vous en empêche pas. Si vous ne voulez plus être des condamnés à mort; c'est-à-dire, plus simplement, si vous n'avez plus peur de déplaire à vos parents.

Dr. Marcel de Lacroix-Herpin
Neuro-psychiatre, Lorient, Morbihan, France
LES-coordinator.

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES Officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES Washington.....(202)723-5397	Ev Cooper. Or try (301)277-0246
Alamogordo, N.M.	Paul Mapes
Baltimore(301)235-4949	Ted Brown
Berkeley(415)658-7390	Art Quaife
Boston	Ed Randall
Caracas, Venezuela ...	Kurt Bantelmann
Chicago(312)726-3285	Don De Grazia
Detroit(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France	Marc COLLET, 54-Rosieres-Aux-Salines
Hull, England 48114 Hull	Alan Worsley
Lorient, France 64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles(213)667-2240	Dennis Guiley
Los Angeles(213)348-1276	Tom Tierney
Lyon, France 72-00-31	Roland Missonnier, leave message.
Manchester, Eng. CEN 5601/2	Brian Gilbert
Montreal, Canada(514)484-1591	Jim Clancy
Moscow (Idaho)(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.(301)277-0246	Bill Albaugh
Nancy, France 53-50-30	Dr. Emile Leclerc
New Haven, Conn.(203)387-4228	Prof. L.N. Jensen
New York City(212)939-1364	Michael Hart
Paris OPE 98-26	Andre Chareyre
Philadelphia(215)HI6-3339	Bob Cohen, after 7pm
San Jose, Costa Rica.. 28.58	Henry Donnat
Simi, California(805)526-9181	Ruth Forzano
South Bend, Ind.(Tel. book)	Eli Spicer
Spartanburg, S.C.(803)583-9041	Prof. E. Wesley Walton
St. Louis(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B. 50989	Gerald Evans
Tacoma, Washington ..;(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma	Steve Reiner
Tunkhannock, Pa.(717)836-5761	Thomas DeWitt
Wilmington, Del.(302)PO4-8947	S.A. Pawlowski -after 6pm.

LES Information Disseminator at Yale University, Stan Drezek, can not necessarily advocate freezing but is interested in LES, will answer inquiries, form an LES group if possible, and would like to be informed of advances in freezing research. 305 Osborn Memorial Lab., New Haven, Conn.

FOR FURTHER INFORMATION write to LIFE EXTENSION SOCIETY (mailing address)
2011 "N" Street N.W.
Washington, D.C., USA 20036

-international- -scientific- -nonprofit- -incorporated for service-

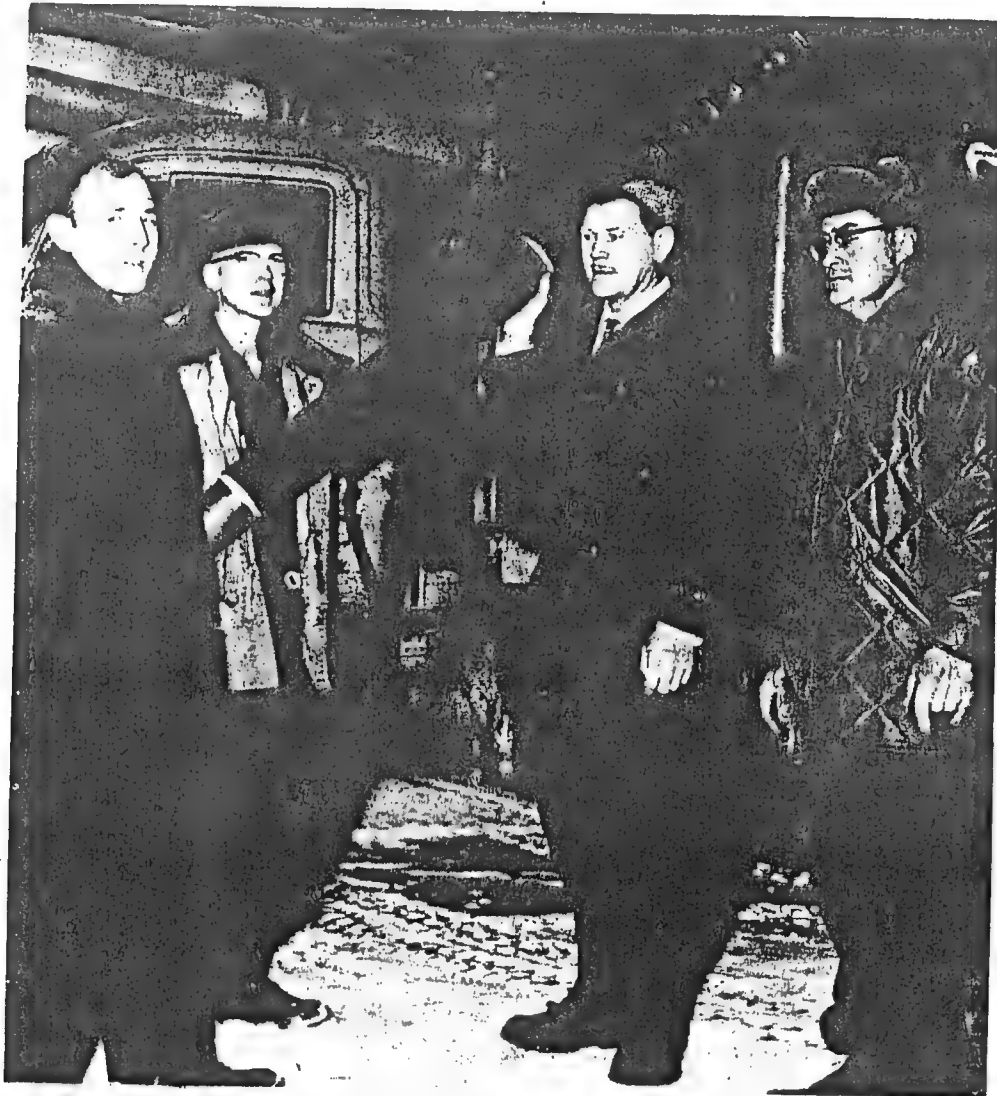


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2811 "N" STREET N.W.

WASHINGTON, D. C. 20036



Joe Balch holding his freezing device. (News-Miner photo)

ALASKAN LES MEMBER INVENTS NOVEL REFRIGERATION SYSTEM

At Mile 34, Salcha, deep in one of the coldest parts of Alaska, Joe Balch's thoughts have been turning toward freezing for the last ten or fifteen years. Though this is the land of the natural deep freeze with winters indescribably cold and permafrost from hundreds to

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thousands of feet deep, summer temperatures make mush and mud of the upper layers. Foundations sag and sink. The initial problem was to keep those upper layers frozen. Balch considers that not only does his frost tube solve this problem but would be applicable to the storage of humans in permafrost. He is well aware that cryogenic storage in liquid nitrogen might be preferable but his invention offers some alternatives, advantages and combinational possibilities.

From letters to LES from Mr. Balch, the new freezing device is essentially a long heat exchanger circulating antifreeze. The area desired is frozen by conveying its heat to the colder nearby air. When the air is warmer the device shuts off.

The following are passages from the letters of Mr. Balch discussing the nature and possibilities of his invention, plus other information.

BEING A POOR INVENTOR AS I AM, with several scores of inventions to my credit, I find writing a letter most difficult, so please overlook my lack of literacy.

I may have the answer to your prayer, for a very economical means of keeping a body frozen for a period of a few years to several hundred years. This new invention that I have created has no moving parts, save one simple valve, requires no motive source of power, compressors or other complexity of the present day refrigeration systems. In other words this device has very little if any maintenance. It is expected that this device will operate for several hundred years. It would cost no more to mass produce than a home type freezer. ... I have lowered the temperature of soil as much as 80 degrees in a period of 29 days. It has been laboratory tested by the University of Colorado with excellent results.

In most of the Northern States and Canada I feel certain that with properly constructed containers one can store a body for an unlimited time at temperatures of not less than minus 30 Centigrade or colder, and farther north as in Canada minus 50 C or colder, with our heat exchanger as it is patented. ... The limitation of this invention is climate. It will operate best in the most northern (and southern) latitudes.

As these may or may not be the most desirable temperatures, and until it is proven just what the most desirable temperatures are, it would offer thousands of persons the one hope of future reanimation as the cost would not be much different from an ordinary funeral. Yet it would keep a body frozen indefinitely at a very low or no additional cost for a very long duration.

RESEARCH SUGGESTION: It would be great knowledge if one could take an animal such as a monkey, block off circulation in one limb, perfuse the limb with glycerol and DMSO, and freeze the treated part for several hours or days. The limb could then be thawed and the blood regulated and replaced with the aid of a heart-lung machine. When the limb returned near normal allow the animal's blood to flow in again. The results should tell if one were on the right track or if a different approach should be entered.

MISC: In answer to one of your questions, in the early 50's a number of native bodies were exhumed to determine cause of death

in 1918. Many of the bodies were in excellent condition. The cause of death was flu.

I have set aside a plot of my own land for a cemetery, much of which is permafrost that will never thaw as it is frozen to a depth of a hundred feet or more. (End of quotes of Joe Balch, Arctic Research, Development, Invention. Salcha via Fairbanks. Tel. 486-6466) - It may be noted that no present liquid nitrogen device is safe from the disruption of liquid nitrogen supplies in the event of nuclear war. Most likely the safest cryogenic storage which could be aimed at would be the liquid nitrogen environment in the coldest practical permafrost area. Antarctica would be the best available. It is international, open to all, coldest, least fallout, and least nuclear war danger. High mountain and other permafrost areas wouldn't be ruled out, however.

The freezing tubes could be used in conjunction with a liquid nitrogen system. They would improve the efficiency of the nitrogen system and take over completely should supplies be interrupted by nuclear holocaust or any other human failing. In short it might be considerably safer than a liquid nitrogen system alone and might be an attainable target for consideration in the near future.

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LETTER FROM INTERSCIENCE RESEARCH ON THE NEED FOR FUNDS IN CRYOBIOLOGICAL RESEARCH

Dear Mr. Cooper:

It seems evident from the material which you have sent that those of you who form the Life Extension Society are sincerely interested in the progress of the science of cryobiology. Perhaps you would like to further demonstrate your concern by making a contribution to cryobiological research.

Our research program for eight years has been to develop systematically a technique for freezing large cell masses, exploring first the problem of organ preservation and ultimately the preservation by freezing of the whole mammalian organism. We were able to report last fall at the Society for Cryobiology perhaps the first report of truly freezing a mammalian organ, the rat heart, with unequivocal return of action after thawing. ... (The author here alludes to progress that has recently been made in his laboratory. Editor.) ... This information must, of course, ethically remain in strictest confidence until published, perhaps late this year, in a recognized scientific journal.

However we are in need of funds in order to extend this work as rapidly as possible to the whole organism. We would appreciate receiving any financial assistance which you could offer. As you know, the amount of professional effort devoted to this problem has been rather meager. No one can truly claim to have frozen a mammal to at least -80°C and the thawed animal to have lived a relatively normal life span. This must be the criterion of successful freezing and thawing. Even though much progress has been made in the past year on organ studies, the work on whole animals promises to be equally as challenging and initial progress is apt to be slow. Despite what some people would have the public believe, scientific research results of true value cannot be mass produced according to a time schedule. The work is often tedious, time consuming, and unproductive regardless of the effort and money invested. If your organization, fully aware of these difficulties, would still like to make a contribution -- of any size -- to this research, I can assure you that the funds will be utilized with prudence, any significant findings will be made public through publication in a scientific journal, and that LES will receive proper credit for the research support.

Indeed, Interscience Research is a non-profit group solely dependent upon public support and charitable contributions.

Yours very truly,
Armand M. Karow, Jr.
Interscience Research, 253 Redwood
Avenue, Jackson, Miss. 39209

EDITOR'S NOTE & BIBLIOGRAPHY LES just at this moment has all it can take care of to meet member's needs and attempt to establish cryogenic storage for humans, but would like to bring note of this appeal to others as well as to indicate the work accomplished by Dr. Karow and others at Interscience Research. In the bibliography below "Karow, A. M., Jr." heads the article except where indicated (*) Webb, W.R. is the first name.

1. EFFECTS OF GLYCEROL AND FREEZING ON SKIN HOMOGRAFTS, Surgery, 49:641-643 (1961).
2. CARDIAC STORAGE WITH GLYCEROL AT ZERO CENTIGRADE, Arch. Surg., 83:719-720 (1961).
3. AN EVALUATION OF SOLUTE MODERATORS FOR PROFOUND HYPOTHERMIA, Fed. Proc., 23(2):311 (1964). (Abstract)
4. PRINCIPLES AND PROBLEMS OF HYPOTHERMIC ORGAN PRESERVATION, Surg. Gynec. Obstet., 119:609-620 (1964).
5. HYPOTHERMIC ORGAN PRESERVATION -- COOLING AND WARMING METHODS, JAMA, 191:1012-1014 (1965).*
6. THE TOXICITY OF VARIOUS SOLUTE MODERATORS USED IN HYPOTHERMIA, Cryobiology, 1:270-273 (1965).
7. THE PRESERVATION OF HEARTS BY FREEZING, Cryobiology 2:26 (1965). (Abstract)
8. PRESERVATION OF HEARTS BY FREEZING, Arch. Surg. 91:572-574 (1965).
9. METABOLIC INHIBITORS OF PERFUSED RAT HEARTS, Circulation, 32:II-216 (1965). (Abstract)*
10. TISSUE FREEZING -- A THEORY FOR INJURY AND SURVIVAL, Cryobiology 2:99-108 (1965). (Also reviewed in the Feb. 1966 issue of this newsletter.)

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CONCERNING THE PROBLEM OF FREEZING HUMANS NOW, AND THOSE WHO SAY IT SHOULD NOT BE DONE NOW.

LES policy and advocacy has been to freeze or prepare for freezing the dying for whom there is no hope remaining, and those who have just died. This assumes the individual in question desires to be frozen, not those who don't wish it. The reasons are that although this hasn't been proven out in clinical practice it probably will be in time. If the person isn't frozen when death comes he is most certainly gone for good. However, if he is perfused and frozen, even by our present-day means, he stands some chance of being repaired and reanimated in the future. To read the future and say that it can't be done is grossly unscientific as far as we can see. However, this isn't the way some other people look at it apparently. The problem came up in an article by Robert Prehoda, Human Hibernation, in Pageant, April, 1966 (reported in an earlier newsletter) where he stated: "Almost all reduced-metabolism experts regard the proposal to freeze the dying or dead at the present time as totally unfeasible because they do not believe that cellular damage caused by current freezing techniques could ever be corrected."

We wrote to Mr. Prehoda saying this was quite dogmatic and asked the names of these reduced-metabolism experts. The reply from two letters is as follows:

"You may be right saying that one is dogmatic in believing that current freezing damage can "never be repaired". However, I have discussed this subject with almost all of the leading cryo-biologists in the United States and Great Britain and I have not found a single one who believes that the massive cellular damage caused by current freezing techniques might be repairable in the future. This is a 100% consensus and when I report it I am passing on the views of every knowledgeable cryobiologist I know through personal acquaintance or correspondence." Mr. Prehoda added that when time permitted he would send a defense of why a presently frozen person could "never be repaired" and a list of the individuals he considers leading cryobiologists. This was in April and of course we are more than open to receiving this information at any time. We should like to ask these gentlemen some questions, such as: IF you wished to try for a return to active life in the future, how would you dispose of your body at death? Freezing? Pickling? Dicing? Burial? Cremation?

We brook so at anyone saying that a person presently frozen cannot be reanimated in the future for the following reasons. So often the experts have been too conservative in what they thought science could do. Wasn't it Lord Rutherford who was previously the world's greatest expert on the atom who said that it could not be split and its energy released. We have a whole history of this type of pessimism as well as of those who were more optimistic. Second, the future encompasses a terrible amount of time. There is no reason why the presently frozen cannot be held indefinitely until problems are solved. In the more extended future the frozen could be stored in natural cryogenic areas such as space or on the moons of Jupiter (e.g.) at no cost for as long as necessary. Cost might not even be a consideration in the future. Lastly, it is the history of science that there is more than one way to skin a cat provided you have the cat to work with. It is even conceivable that "massive cellular damage" might not need to be repaired. New cells could be substituted and yet the identity of the individual retained. The possibilities are endless and to discourage an individual from trying for a future life seems from this vantage point immoral for you would be denying him or persuading him from a chance at an extended life in the future.

* * *

BOB ETTINGER WRITES ON THE IMPORT OF SUDA'S CAT BRAIN FREEZING THAT "THERE MAY NOW BE A SUBSTANTIAL LEGAL BASIS FOR FREEZING A PATIENT BEFORE DEATH"

To LES and Cryonics* members:

Last fall Ev reported Prof. Suda's remarkable experiment - freezing a cat's brain for several months, then thawing it and obtaining a normal encephalogram. (The technical report is supposed to appear soon in Nature.) But one of the most important implications of this achievement seems to have been ignored.

It is nothing less than this: there may now be a substantial legal basis (in appropriate cases) for freezing a patient before death!

The brain waves are generally regarded as the most important of the vital signs, more important than heartbeat or breathing; hence, freezing the cat did not kill it, and likewise freezing a live patient by this

(next page)

*The Cryonics Society of New York is a small society independent of LES but the Cryonics leadership suggests that their members join LES and receive the newsletter for additional information on freezing. Ed.note.

continued

method would not be homicide. We could then better justify use of Prof. Gruman's term, LTA ("low temperature anabiosis" or suspended animation).

The many advantages of freezing before death might include: avoidance of terminal suffering by patient and family; funding with money that would have gone into terminal hospital care instead of additional money; active cooperation of a patient who still has strength; control of date and time of freezing; avoidance of terminal debilitation; perhaps better legal protection of the patient's interests; by-passing of any "resurrection" questions.

We realize a cat is not a man, and the temperature used by Suda was probably too high for long-term storage. Obviously most physicians would consider this procedure in only the most hopeless or desperate cases; yet there are many of these.

The patient frozen in this way would either be kept at that temperature indefinitely, or else later cooled to liquid nitrogen or other temperature depending on further research results.

There may be a danger of public confusion if we start talking about freezing before death in some cases; and we can probably make little headway with physicians before Suda's technical report is available. Nevertheless, I believe we should start thinking about this.

Finally, a brief note on my activities. Writing and speaking engagements continue to come in. Several terminal patients have been in touch and some say they will be frozen, but none yet will allow publicity. Local efforts to prepare physical and organizational facilities continue, still much too slowly, and other efforts are in the offing. We must depend on no one else and take nothing for granted, but pursue every avenue.

R.C.W. Ettinger, July 16, 1966
24041 Stratford, Oak Park, Mich.

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SUGGESTIONS FOR EMERGENCY FREEZING BY LEONARD CELLA

Mr. Cooper,

The newsletter of II(19)2, is misleading in reference to the following:

"If you are unable to locate a doctor...you can merely list your doctor on the freeze-cards and pray that he is able to survive the shock and meet the challenge of freezing you if you should meet with an irremediable accident in the near future."

This sounds pretty hopeless to me. I was under the impression that anybody who is aware of my wish to be frozen could pack me in dry ice until I could be transported to a permanent storage plant. According to the newsletter, if there isn't a doctor around, I'm out of luck.

I have emergency instructions for my next of kin in case of my death. Are these steps worthwhile:

1. Reduce deterioration by applying artificial respiration and external heart massage.
2. Place body in refrigerator.
3. Order dry ice. Have name of company and phone number on hand.
4. Call Mr. Ettinger or others on FWR newsletter list for advice.
5. Call doctor to certify death.
6. When dry ice arrives, cover exposed parts of body with light cloth, pack body in ice, and wrap blankets around ice and body to keep heat out.
7. Transport body to closest freezer or vice versa.

If these steps are carried out, I see no reason why a doctor is even necessary unless he is really on the ball and can do better with DMSO etc. I mean, why take a chance on a quibbling doctor when somebody could be following the above procedure instead?

Len Cella

COMMENT: Cold water good for initial cooling also.)Broomall, Pa.

COMMENT: It is possible the medical profession might be jealous if you don't call a doctor at an earlier stage.

LETTERS CONTINUED SO MANY QUESTIONS, SO MUCH UNKNOWN, YET HIGH HOPES
 Dear Ev,

I have just received a copy of your pamphlet entitled Freeze-Wait-Reanimate, and I am interested in many things concerning your society.

First of all, is it possible for me to become a working representative or member of your staff? I am, at present, a member of a ridiculously small community in which the University of Idaho is located, and I am a third year pre-med student. I am relatively certain that you must have no one in this immediate area to represent you, and would be more than delighted to do anything possible to help your "cause" both now and in the future when I hope to become a doctor. ...

How may one go about demanding that ones wishes concerning freezing of a family member be carried out with as little delay as possible? And would one ever, in the face of a refusal to do as much, go about the freezing oneself, in, perhaps, a home style freezing unit? Are there laws to prohibit the handling of ones dead as one chooses, if, in such a case as this, one is primarily interested in actually prolonging the life of the "deceased"? What I am getting at here, is, that if one should perhaps run into a great deal of opposition from local doctors and/or law enforcement agencies, can one expect to take charge of the deceased, freeze him or her, and thus successfully store until one can make more satisfactory arrangements? ...

I should like to see information on LES at the disposal of both rich and poor, as well as great efforts made to obtain the "good will" of as many competent, knowledgeable medical men, in an effort to lend a greater air of plausability and acceptability to your work. I should like also to see the society (LES) so highly organized and well supported that it would soon be able to not only support its own staff of scientists and doctors to work for more advanced notions, but also to be so widespread that it will be convenient for every person to be aided by a personal representative of LES in all times of emergency.

I would like to thank everyone for beginning such a delicious society which may be responsible for making a truism of John Donne's highly optimistic "Death, thou shalt die."

Thank you,

Patricia Gossett, Moscow, Idaho

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PUBLICITY AND COMMUNICATION

As usual there is too much for a detailed report. As usual Bob Ettinger has been in the forefront with talks, TV interviews, and articles. He spoke to the Oakland County Cemetery Association June 15, on Baltimore TV July 15, spoke at convention of National Association of Doctor's Nurses, Washington, July 16, and is writing an article for Naturwissenschaft und Medizin. Both West German TV of Mannheim and Granada TV of Manchester, England have been interviewing most people connected with the freeze-wait-reanimate idea. WUHY FM, Philadelphia carried a documentary called "The Prospect of Immortality" interviewing numerous authorities, June 28 and July 3. The tape will be aired in other major cities and may be available to other radio stations.

Forrest Walters of Latrobe, Pennsylvania has continued a rather torrid pace with a speech to the Keystone State Cemetery Association June 8th, taped WICU-TV Erie June 14, WFAS radio Pittsburgh June 16, WMEX radio Boston June 18 and July 2, and is scheduled for WFAS Pittsburgh Aug 2nd.

Attorney Tom DeWitt of Tunkhannock, Pennsylvania has had a letter in the New York Times on freezing, spoke to the Kiwanis Club recently, and has been aired on WBRE recently with a return engagement scheduled in about two weeks.

Bob Nelson in Los Angeles has been instrumental in getting TV shows

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to survey and discuss the idea also showing Ed Hope and his cryocapsule. Excellent reports came back of the Louis Lomax Show earlier this month. Lomax used a very thoughtful, reasoned, questioning approach. When Lomax went through the audience to get reactions he could find but one person who was against the idea.

Ed Hope has been more than active building a new structure to house the manufacture of his capsules and other facets of his operation, taking part in TV programs, and gaining newspaper publicity. The Baltimore News American and Toledo Monitor have carried articles on his operation and a large group of papers such as the Newark News, Chicago Tribune, Milwaukee Journal, Pittsburgh Press, Louisville Courier, Philadelphia Enquirer, Boston Globe, Hartford Times, Detroit News, and all major Canadian Sunday papers, are supposed to carry an article on or about August 20th.

Apologies to all those we may have missed.

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MEMBERSHIP & MAIL: Both are out of hand. Membership must stand at over 625 though we have lost track as we are behind on mail. We have been overwhelmed not only by the mail and renewed subscriptions but by summer laziness and vacations. Vacations will continue through August so we hope to catch up after that.

THE NEWSLETTER continues to be published at about 750 copies per month with 1000 first sheets for sample distribution. What will happen to the newsletter in August, if anything, no one knows. We have been promised 750 copies of a very attractive brochure printed by Cryo-Care of Phoenix. If and when we receive this brochure it will be distributed to members and subscribers. It contains description of the only cryogenic container currently being manufactured specifically for humans and portions of our FWR newsletter on perfusion, cooling and freezing instructions.

OCTOBER LES CONFERENCE PLANNED FOR WASHINGTON DC

Though the date and exact location have not been set one of the last two weekends in October is tentatively scheduled with further information in the newsletters to follow.

NEXT LES WASHINGTON MEETING would normally be held on the third Tuesday of August (the 16th). However, it may be shifted to Monday the 15th if arrangements can be made for Armand Karow, Jr. to speak to the meeting on current cryobiological research. Contact Bill Albaugh at AP7-0246, John Prince, Jr. at LI 6-1136, or Peg Howard at 924-4972 for final arrangements. If it cannot be arranged for the 15th the regular meeting would be held the next day at the Georgetown Public Library.

ALAN WORSLEY BECOMES LIFE MEMBER We were stunned (and thankful) to receive a life membership check from Alan Worsley, research fellow, at Hull University in England. Many, many thanks, Alan.

MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

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INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number doesn't answer, try another.

Please do not expect precision organization or categorical answers for every question you might ask. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we do thank these people for so graciously extending themselves. The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES Officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES Washington.....(202)723-5397	Ev Cooper. Or try (301)277-0246
Alamogordo, N.M.	Paul Mapes
Baltimore(301)235-4949	Ted Brown
Berkeley(415)658-7390	Art Quaife
Boston	Ed Randall
Caracas, Venezuela ...	Kurt Bantelmann
Chicago(312)726-3285	Don De Grazia
Detroit(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France	Marc COLLET, 54-Rosieres-Aux-Salines
Hull, England 48114 Hull	Alan Worsley
Lorient, France 64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles(213)667-2240	Dennis Guiley
Los Angeles(213)348-1276	Tom Tierney
Lyon, France 72-00-31	Roland Missonnier, leave message.
Manchester, Eng. CEN 5601/2	Brian Gilbert
Montreal, Canada(514)484-1591	Jim Clancy
Moscow (Idaho)(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.(301)277-0246	Bill Albaugh
Nancy, France 53-5J-30	Dr. Emile Leclerc
New Haven, Conn.(203)387-4228	Prof. L.N. Jensen
New York City(212)939-1364	Michael Hart
Paris OPE 98-26	Andre Chareyre
Philadelphia(215)HI6-3339	Bob Cohen, after 7pm
San Jose, Costa Rica.. 28.58	Henry Donnat
Simi, California(805)526-9181	Ruth Forzano
South Bend, Ind.(Tel. book)	Eli Spicer
Spartanburg, S.C.(803)583-9041	Prof. E. Wesley Walton
St. Louis(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B. 50989	Gerald Evans
Tacoma, Washington ..;(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma	Steve Reiner
Tunkhannock, Pa.(717)836-5761	Thomas DeWitt
Wilmington, Del.(302)PO4-8947	S.A. Pawlowski -after 6pm.

LES Information Disseminator at Yale University, Stan Drezek, can not necessarily advocate freezing but is interested in LES, will answer inquiries, form an LES group if possible, and would like to be informed of advances in freezing research. 305 Osborn Memorial Lab., New Haven, Conn.

FOR FURTHER INFORMATION write to LIFE EXTENSION SOCIETY (mailing address)
2011 "N" Street N.W.
Washington, D.C., USA 20036

-international- -scientific- -nonprofit- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Life Extension Society, mailing headquarters at 2011 "N" Street Nw. Society of Colonial Dames and National Parks Association next door.

THE NEGATIVE SIDE OF THE QUESTION:

TO FREEZE THE DYING OR DEAD AT THE PRESENT TIME IS TOTALLY UNFEASIBLE

I would like to answer the article and letter references to my views regarding freezing the dying or dead at the present time that appeared in the July issue of "Freeze-Wait-Reanimate."

I will repeat my published opinion (Pageant: April, 1966), that "Almost all reduced metabolism experts regard the proposal to freeze the dying or dead at the present time as totally unfeasible because they do not believe that cellular damage caused by current freezing techniques can ever be corrected." The reasons for this dogmatic statement are quite simple. When an organ as large as a human brain is perfused with DMSO and frozen to cryogenic temperatures, most of the cells are damaged

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IF A PERSON WERE FROZEN NOW IS REANIMATION POSSIBLE IN THE MORE DISTANT FUTURE? DO THE EXPERTS THINK IT IS POSSIBLE OR IMPOSSIBLE?

In the following "debate" Robert Prehoda takes the negative friendly opposition including his sampling of expert opinion. Your editor follows with a point by point reply. Bob Ettinger winds up with a point blank rebuttal of Prehoda's contention.

This is a continuing debate with as many sides, perhaps, as there are people. The cartoonist Hart in "B.C." has one character ask, "What if when we die, we don't come back as anything? What if we don't even come back at all?" The other character replies, "The answer to that is easy...Don't die."

Even LES members are not that optimistic. So let us return to the debate on freezing and listen to Robert Prehoda present his side first.

ROBERT PREHODA'S LETTER CONTINUED

beyond any conceptual means of future repair and restoration to original function. The very process of attempting to repair billions of separate brain cells would necessitate separating them, and this would sever inter cellular connections that would be almost impossible to rejoin. I would estimate that the chances of rejoining ten billion brain cells would be less than one chance in ten trillion (not very good odds for a proposed multi-billion dollar "freezer program.")

Who are the "leading cryobiologists?" Attached is a page listing the founding members of the society for cryobiology. I have discussed this subject with over half of these scientists in addition to many other scientists who are knowledgeable concerning the present state-of-the-art in cryobiology. Not one of them thinks there is even a remote chance of reanimating people frozen under present cryobiological techniques. This represents a 100 per cent consensus to date, and also represents my views.

Future prospects are another subject. Dr Audrey Smith has frequently pointed out that some new discovery may permit suspended animation with complete reanimation. She means the living, not the dead. Again there is a 100 per cent consensus that after a subject has been dead for five minutes at a body temperature of 37°C, the brain cells are damaged beyond any conceptual means of repair.

I believe that human hibernation for periods of 6 to 9 months is entirely possible; in fact, probably achievable in the 1976-86 time period with adequate research funding support. What I call "chemical anabiosis" (see Pageant article), is also possible, and very recent research results are extremely encouraging. Suspended animation at cryogenic temperatures will require a new approach. I have some conceptual ideas concerning how this might be accomplished and I am discussing them with various cryobiologists. My conceptual approach would suggest that DMSO freezing alone will never permit suspended animation, but I may be wrong.

Reduced metabolism needs research funds, not freezer facilities. Proper R&D support is the only chance of achieving suspended animation, and such research may not be successful.

Bob Ettinger's book has started a "freezing cult" which may eventually resemble the "cult of the dead" which caused the ancient Egyptians to perfect mummification. The only thing that present cryogenic freezing offers is a well preserved cadaver. Why not perfuse with DMSO and stack the bodies in the arctic or antarctic?

I had originally hoped that the freezing cult would indirectly help increase reduced metabolism research funds. This has not been the case, in fact some scientists think that it has hindered research support.

Please consider this letter as a communication from the "friendly opposition". Your LES newsletter is informative and contains references of interest. However, many of the experiments reported have not been duplicated by scientists which I am acquainted with (the cat brain EEG experiment, etc.). Cryobiological experiments must be duplicated in order to be considered valid.

Please reproduce this entire letter if any of it is to be inserted in the LES newsletter. Again I would like to mention that I personally like Bob Ettinger, yourself and other "freeze-now" true believers, but disagree with them on the current capabilities of cryobiology.

Very best regards, / Robert Prehoda, Encino, California

HOW REANIMATION OF THE "PRESENTLY" FROZEN MIGHT BE POSSIBLE IN FUTURE

The history of science repeatedly reminds us that much more has been discovered and solved than men generally expected. Most of us have heard of a long list of predictions which were declared impossible and yet eventually came to pass; such as, atomic energy, the airplane, the rocket, the iron ship, radio, etc. One less well-known prediction was that of the 19th Century scientific optimist Auguste Comte. He reasoned that since science could not reach and sample the material of stars, their composition could never be determined. Of course, in a few years men with the spectroscope found precisely which elements were in the Sun, our closest star, and also found new elements as yet unknown on earth.

In particular instances the history of science proves nothing. But it should teach us to be very wary of underestimating the possibilities of science and to be exceptionally carefull of saying that problems amenable to the techniques of science can never be solved. It seems most reasonable to claim that reanimating a frozen person, even if damaged is within the domain of science. We are initially pessimistic that a person could be reanimated for we seldom stretch our imaginations sufficiently to conceive how presently insurmountable problems might be solved in the more distant future. We tend to confuse the present with the future. We restrict the future by imputing to it our present limitations. Even in theory we tend to forget how deep in time the future could be. With an unlimited amount of time obstacles that seem almost insurmountable can eventually be solved.

LET US EXPAND OUR IMAGINATIONS for a moment and explore how the presently frozen human brain might be reanimated in the future. One possibility is that it may be much less of a problem than we expect. If Prof. Suda's experiment of perfusing and then freezing for one half year a cat's brain with a successful reanimation is valid, it would indicate that something of the same can be done for the human. It would indicate that it might be extravagant to claim that most of the cells would be damaged beyond any conceptual means of future repair. True the cat's brain is smaller and less complex. True Prof. Suda's experiment has not been duplicated as yet. However, other freezing experiments indicate that such an experiment should be possible. As Bronowski and C.P. Snow write, trust is an integral part of science. It doesn't mean that Suda's results should not be checked. They should. But it might be more practical for progress to trust that Suda has done a reasonably accurate experiment until we learn otherwise.

A SECOND POSSIBILITY is to grant a large amount of damage and imagine what could be done repairwise. In centuries to come and provided enough is known about life I see no reason why brain cells could not be repaired at the molecular level and reconnected. Granted this is a long way in the future. I don't wish to stretch my imagination out of joint, but it is conceivable that machines with IQ's higher than we dare think of, and sophistication so great, they could patiently rebuild cells atom by atom at the speed of light.

A THIRD POSSIBILITY: If the cell walls were broken, or for whatever reason, it might be found possible to remove or copy and transplant the molecularly structured memory in a new cell. The above removal and transplant idea is similar to Prof. Elof Carlson's prediction that King Tut (or some other ancient Egyptian) could be re-created from his particular genetic code which should be preserved in his dried tissues. King Tut's memories would have been lost. But it is interesting that even a bodily re-creation can now be considered as a

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future project for science. This could hardly have been dreamed of in the decades and centuries previous to ours. With the increasing sophistication of science, who knows, perhaps it might not be such a ridiculous idea to perfuse with some cryophylactic agent and store in Antarctica. Although science certainly seems to indicate that cryogenic temperatures in addition would be preferred. If the Egyptian has such luck as to have a duplicate of his body re-created in some future century, then by cryogenic storage others may find themselves completely whole, living, and the same in some future century.

Concerning when to start the freezing process there is no dispute from this writer that it would be preferable to begin or at least have everything ready when the person is still alive. What is possible in fact may be another thing. Also we should always remember the extreme relativity of death. In some instances a person in excellent condition but dead might be perfused and frozen immediately and be in better shape for reanimation than an aged and disease-wracked person whose perfusion and freezing were carefully prepared for in advance of death.

We all know the perfect method of freezing is not at hand. But we do believe that persons attempting the future will be well advised to prepare for the best freezing available now. As improvements come he will be ready to take advantage of them. So, even if it were true that by "present" freezing methods the person could not come back, he would still be in line for discoveries which might occur before his death.

Concerning the leading cryobiologists you are plain enough. I simply stand in amazement that over half of the men on that list were so conservative or pessimistic about future possibilities. For our readers interest these men are listed below, minus titles to save space.

E. Asahina	M.J. Ashwood-Smith	C.E. Brodine	Richard C. Meyer
A.B.Cooper	Harlan Den Beste	Wilton R. Earle	T. M. Minckler
P.D.Doolan	Charles A. Hufnagel	Virginia J. Evans	A. S. Parkes
M.F.Dolan	Harold T. Meryman	Abner Golden	Vernon P. Perry
R.J.Hansl	William F. O'Toole	R.I.N. Greaves	Arthur P. Rinfret
J. Levitt	Robert E. Stevenson	Donald Greiff	Joseph F. Saunders
B.J.Luyet	Randall L. Thompson	George W. Hyatt	John E. Shannon
C. Polge	Monroe M. Vincent	T.I. Malinin	J.K. Sherman
Louis Rey	Thomas E. Wheeler	Peter Mazur	John M. Stem

Perhaps they should be polled from time to time if it remains their opinion that "not one of them (of the half asked) thinks there is even a remote chance of reanimating people"(even in the distant future)"frozen under present cryobiological techniques."

It may be too early to see whether the "freezing cult" or freezing movement is stimulating funds into research. After all we are as yet rather few in numbers and only one person has been frozen. Generally speaking funds are only spent in research when interest has been generated. The large sums spent for war research, space included, and medicine revolve ultimately on public interest. It doubtful that the freezing program would be exempt from this pattern.

More important, however, we have an obligation to the presently living and dying. If our assessment of science and the future is correct they have some chance of entering the future. We are obligated to help them as much as possible and not sacrifice them to the future when helping them here and now might possibly enhance their chances.

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BOB ETTINGER'S LETTER REPLYING THAT CRYOBIOLOGISTS ARE NOT AS NEGATIVE OR PESSIMISTIC AS PREHODA WOULD INDICATE

You attributed a statement to Robert Prehoda, that a poll of most leading cryobiologists shows that "...not a single one...believes that the massive cellular damage caused by current freezing techniques might be reparable in the future." This is incorrect, and should not be allowed to stand.

While I have not been in touch with as many cryobiologists as Prehoda claims to have been, I have talked or corresponded with some of the best known, and the truth is nearly the opposite of what Prehoda says: not one denied that there is some chance of eventual revival. These include Harold Meryman, Richard Lillehei, Theodore Malinin, and Rupert Billingham, as well as many biologists in other specialties, e.g. Hermann Muller and Alex Comfort. (I have here named only men who have made public or semi-public statements, and not the additional ones who have made private statements only.)

The point is that poll taking is an art, and the answer you get depends heavily on the way you ask the question. Prehoda's statement, whether or not accurate, is definitely misleading.

Also misleading and irresponsible are the statements of some scientists that the chance of revival, while not zero, is "negligible." This does not mean they have actually calculated the chance; it merely means that they are willing to neglect it, usually because they have emotional obstacles to accepting such a program.

Bob Ettinger,

Oak Park, Michigan

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SUGGESTIONS TOWARD AN ALARM SYSTEM AND A COOLING SYSTEM FOR THE BODY PRIOR TO PERFUSION AND FREEZING

The liesure of a vacation here in Northern Italy together with the beauty and agelessness of this land induces me to dream about means of enjoying it for a multitude of summers. Hence, I offer some suggestions to the society which had been on my mind in America but which never had time to be expressed.

I concur with the suggestions recently made by Dr. Feinberg in the LES bulletin that we give some thought to more efficient methods of freezing but I would also like to mention two other problems which, at least to me, appear even more pressing. Excluding our biggest problem of the future, reanimation, because it demands research on unknown techniques, the two problems I would like to point out are, by contrast, answerable by current technology.

The first is an alarm system, capable of immediate detection of clinical death, i.e. absence of a heart beat and/or blood pressure. This sort of problem might interest the more electrically oriented members of the society. What I envision is a small solid state detector, amplifier and transmitter, perhaps in the form of a wrist band, sensitive to the presence and absence of the EKG or pulse wave. With clinical death the transmitter must be able to set off an alarm system either by itself instituting or alerting others to institute a first stage of cooling.

This brings me to the second problem, which is to devise a rapid

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DR. GOURAS' LETTER CONTINUED ON AN ALARM AND COOLING SYSTEM

initial stage of cooling to 5 or 10 deg. C. which would provide ample time for a more or less expert team to carry out subsequent perfusing and deep freezing. Four or five hours would seem to be reasonable but longer delays could be easily tolerated with this technique of stopgap hypothermia between death and deep freeze. What I tentatively imagine for such cooling is perhaps a blanket within which a refrigerant is circulated, merely by plugging into the mains. There is a problem here in getting the body core and brain temperature, in particular, down fast enough but certain modifications might be possible for doing this. There is also the legal question of the pronouncement of death.

Both of these techniques seem mandatory at the present time, however, for it is practically impossible to carry out perfusion and deep freezing faster than an hour or so after death, and this is probably an optimistic estimate, in which time there would be inevitable and considerable cellular deterioration.

Of additional recent interest is an abstract I noticed of work presented before the English Physiological Society and published in the Journal of Physiology (London) describing a very well controlled study showing that a normal functioning kidney could be obtained in a mammal after the organ had been rewarmed following cooling to below freezing.

Lastly may I recommend to the society a poem of Dylan Thomas which in my opinion might serve well as a working motto: it begins, "Do not go gently into that good night".

Best wishes,

Peter Gouras, M.D. Lake Garda, Italy

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LETTER FROM AN ARTIST, ERNEST FIORE, REQUESTING HELP

I am a recent member of LES. But I will state here and now that the thought of a new life after death had fascinated me many years ago -- perhaps because of my ability to create? I don't really know; I am an artist, this may have some bearing on the fact that the artist is imaginative, etc. But whatever the case is, this is not what I write you about.

I believe in science, and I believe that all you claim will come to pass. But I have a very big problem. I want the freeze method applied to my body when I am gone. In your recent issue of Freeze-Wait-Reanimate, you had an article and graph showing that only one person had been frozen. You ask, where is the individualism? Where the scientific curiosity? And so on. Well I agree. But my hands are tied. I don't have the necessary funds that it would take. I cry out to you for help.

My big question to you is: Are there people who would help people like me? I would sign any legal papers turning my body over. Is there a sponsor?

Please bear with me a little longer and let me tell you a little about myself.

I am forty five, creative, and I have taken blue ribbons for my work. But here is the important part that will interest you. I suffer from Angina Pectoris.

I dream of going on with my work for the artist one lifetime is not enough.

Please let me know who can help me? I am sincere.

Respectfully,

Ernest Fiore, East Avenue & Wheat Rd
Vineland, N.J. 08360

Letter from Dr. Emile Leclerc

"Je lis toujours avec le plus grand intérêt et le plus grand plaisir les newsletters et il m'est venu quelques idées que je m'empresse de vous soumettre.

" 1) Ne pourrait on concevoir "l'Extension de la vie" non seulement d'un point de vue humain mais aussi du point de vue de la vie en général et par exemple conserver à basse température des espèces végétales animales ou des races humaines en voie de disparition (voire même des bactéries ou des champignons renfermés dans certains fromages).

" Dans cet ordre d'idée, je pense particulièrement à certains grands cétacées que l'on massacre sans discernement et qui seront pratiquement disparus d'ici quelques années. Ainsi on pourrait, tout au moins, conserver du sperme ou des ovaires ou des ovules fécondés, la postérité nous en serait certainement reconnaissante.

" Une requête pourrait être adressée aux organismes internationaux ou nationaux compétents ainsi qu'à certains grands savants (par exemple au biologiste Jean Rostand).

" 2) Il serait peut être utile de placer dans la bouche du congelé une plaque en plâtre où seraient inscrits en lettres perforées certains renseignements indispensables aux réanimateurs: nom, âge, Maladies..etc."

Translation

I have always read with the greatest interest and the greatest pleasure the newsletters, and some ideas occurred to me which I hasten to submit to you.

1) Could one not conceive of the "Extension of life" not only from the human point of view, but also from the point of view of life in general, and for example, to preserve at low temperature some plant and animal species, or some human races that are becoming extinct (even bacteria or mushrooms in certain cheeses).

In the same vein, I am thinking particularly of some large whales that are massacred without discernment and that shall probably disappear within a few years.

Thus, we should be able to preserve at least some of the sperm or the ovaries, or fertilized ovula; posterity shall certainly be grateful for our doing so.

A request could be sent to some large international organizations as well as to some well-known savants (for instance the biologist Jean Rostand).

2) It might be useful to place in the mouth of the frozen a plaque made of plaster where the information indispensable to the reanimators would be recorded in perforated letters, the name, age, sickness, etc.)

NEWS FROM BRITAIN BY GERALD EVANS

SUNDAY TIMES Under the title THAW POINT the classy SUNDAY TIMES printed a write up about the Life Extension Society on Sunday July 24th.

B.B.C. (Sound) I was interviewed and taped on Tuesday July 26th about LES. This resulted from the Sunday Times article. One item the BBC interviewer encouraged me to develop was the possibility of using the Freeze-Wait-Reanimate idea on children whose lives are cut short by leukemia a cure for which may be found within the next ten years. This interview went out in the programme "Today" from all B.B.C. Home Service transmitters at 7.30.a.m. on 27th., July. This provided a coverage for the entire nation. Reactions from my friends and others were very encouraging. Although the transmission was made early in the morning, millions of workers preparing for their daily toil were available to hear it. In Britain the BBC sound transmissions are useful for time checks in the morning, and this facility alone drives people to switch on.

LEADERSHIP. It is inevitable that I am being carried along as the "vice-man" in Britain. It might well be that of our present members there is one perhaps better blessed for this role. But until we are knitted into a strong membership I will willingly act pro-tem. In fact, I am now so deeply committed that a retreat would be harmful to the movement. My only concern is that I am saying and writing the correct things. I have already suggested to Alan Worsley that we should all endorse some agreed notes on policy and propaganda. Sometimes during the stress and heat of an interview unguarded statements are made, and some reporters try to put forward ideas that they hope you will endorse. Some misunderstanding of our British membership figures occurred under such conditions. The sooner we are properly organised the better. LES is with us to stay, nothing can now quench its flame. One newspaper editor, who at first cooled down on my submission rang me up a day later and said that a friend of his had just dropped in from America and told him LES was terrific.

NATURE. This important magazine informs me that they are going to publish Prof. Suda's paper dealing with the freezing and storing of a cat's brain but at the time of writing no date had been fixed, but a copy will be sent to me when it is published. This experiment with the blessing of "NATURE" will make those scientists who are a little pessimistic about early successful freezing of large organisms sit up. To me it is the break through.

NORTH AMERICAN NEWS

Apparently there has been sufficient interest in the freezing idea in California, Los Angeles mainly, that the Lomax TV Show and the Joe Pyne radio show have both been rerun. Russ Stanley, Bob Johnson, Helen Kline and Bob Nelson have been working extremely hard. The result has been an increased spread of the idea and an augmented LES membership. They would be very pleased if members, or anyone interested, gave them a call to learn of activities and the next monthly meeting.

Mrs. Harvey DeCovnick has consented to become LES Coordinator for Alamo, California (East San Francisco Bay), and wishes to meet with interested people in that area at a time most suitable for all. Note Mrs. DeCovnick's number and other area numbers on the coordinator's page.

Others have been active in New York, Pennsylvania, Washington, and Canada. Desmond Clancy, always active, has taken a trip across Canada as a Roving LES Ambassador speaking and obtaining radio interviews. He also encouraged Gordon Petts to become our LES Coordinator for Calgary.

RADIO BROADCASTS

A documentary program running for one and one half hours done by the East Coast Educational Radio Network on the freezing possibilities will be presented according to the following schedule:

New York, WRVR, Oct. 2	Washington, WAMU, Oct. 2
Albany, WAMC, Oct. 2	Richmond, Va. WRFK Sep. 30
Austin, Tex. KUT-FM Sept. 17	Ann Arbor, Mich. WUOM Oct. 4

Dates for the following stations are yet to be determined: Hollywood, KPFK; Boston, WGBH; Amherst, WFCR-FM; and Cincinnati, WEUC.

In Washington, September 22nd, the cancellation of a baseball game allowed your editor to discuss LES and the freezing idea at length with Dave Campbell on Station WTOP.

FOURTH ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE, WASHINGTON, OCTOBER 29TH

The date of this conference has been pushed up to October from the midwinter position to make it easier for those travelling. The hotel is the Sheraton-Park where many scientific conventions take place. As indicated on the flyer describing the conference, which you should find with this newsletter, the price will be \$5 which includes your luncheon. Do let us know immediately if you can come. It will help us in making arrangements. If you are willing to present a short paper you think would be of interest, don't feel shy in asking for a place on the program and submitting your paper. We have facilities available for round table discussions as well as the more traditional meeting rooms.

MEMBERS, SUBSCRIBERS, AND NEWSLETTERS

Members and subscribers now number over 650. Eight hundred newsletters were printed for this issue. This issue is expected to be in the mail to the regular mailing list on Sept 25th or 26th.

STARTING WITH THE SEPTEMBER ISSUE, THE CRYONICS SOCIETY OF NEW YORK, INC. is offering Cryonics Reports on a subscription basis. The cost is \$5 for one year, \$9 for two years, and \$20 for five years. Their membership fees are somewhat higher. Though The Cryonics Society is a separate society from LES, it does include membership to LES in its yearly dues.

ATTENTION ENGINEERS AND SCIENTISTS

IS SOMEONE INTERESTED IN WORKING WITH ME ON RESEARCH AND DEVELOPMENT OF CRYOGENIC FACILITIES IN THEIR SPARE TIME? I AM PRESENTLY DOING RESEARCH ON LONG TERM POWER SUPPLIES USED IN CONJUNCTION WITH CRYOGENIC EQUIPMENT. I AM A GRADUATE CHEMICAL ENGINEER AND AM DOING THE RESEARCH IN MY SPARE TIME. ANYONE INTERESTED IN WORKING WITH ME EITHER THROUGH THE MAIL OR PERSONALLY, PLEASE CONTACT ME. NO LAYOUT OF MONEY REQUIRED -JUST A CURIOUS MIND. Phone GR 3-5633, or write to: Leonard Kushner
5100 Gainer Rd.
Philadelphia, Pa. 19131

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

INFORMATION AND HELP

If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES Officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Alamo (East S.F.Bay) ..	(415)837-6017	Mrs Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Baltimore	(301)235-4949	Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston		Ed Randall
Caracas, Venezuela ...		Kurt Bantelmann
Calgary		Gordon Petts
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburgh	(717)ED4-4977	Russ Norgan
Hull, England	48114 Hull	Alan Worsley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Lyon, France	72-00-31	Roland Missonnier, leave message.
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal, Canada	(514)484-1591	Jim Clancy
Moscow (Idaho)	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New Haven, Conn.	(203)387-4228	Prof. L.N. Jensen
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Charayre
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
San Jose, Costa Rica..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(Tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulaa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PC4-8947	S.A.Pawlowski -after 6pm.

FOR FURTHER INFORMATION WRITE TO: LIFE EXTENSION SOCIETY
 (This is our mailing address 2011 "N" Street N.W.
 not offices.) Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-

VOL 3 NO.28
OCT 1966



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Giant Sheraton-Park Hotel takes care of small Fourth Annual Freeze-Wait Reanimate Conference in Washington. (Details follow inside newsletter.)

SUCCESSFUL AND VERY IMPORTANT CAT BRAIN FREEZING, STORAGE, AND REVIVAL EXPERIMENT FINALLY PUBLISHED IN THE JOURNAL NATURE

The scientific journal Nature, probably the worlds greatest scientific periodical has finally published Prof. Isamu Suda's cat brain experiment. For those of you who have not been readers of FWR for very long, you may not have been able to follow the progress of the scientific acceptance of Suda's experiment. May we review:

Prof. Suda of Kobe University in Japan is one of the world's

greatest experts in perfusion. Perfusion is the suffusion of fluids through the blood vessel system for study and therapy. On December 17th 1964 he placed the brain of one particular cat in the deep freeze after it had been perfused thoroughly with a glycerol solution. On July 7th 1965, over 6½ months later, he removed the cat's brain from the freezer and reanimated it with success as shown by its brain waves. In August of 1965 he presented his findings before a conference of physiologists meeting in Tokyo. LES member Helen Silver first informed us and this newsletter carried note of this "astounding advance" in our September 1965 issue. In later issues we reported details obtained in correspondence with Suda that are substantially the same as now reported in Nature.

In the meanwhile we have been holding our breath. Would such a

-copyright 1966-

discovery, one that some of us would call epoch making, be a hoax? Was there an error in the report? Would other scientists be able to duplicate the same experiment? Would Nature publish Suda's experiment?

Finally on October 28th we heard from Gerald Evans, our LES Coordinator in Swansea, Great Britain, as follows:

"Well, it's happened. NATURE has published Prof. Suda's article. It is in Vol 212 No 5059 - Saturday Oct. 15th., 1966. ...

"The article does everything we dreamed of. THIS IS IT ! From now on, we are scientific, not unscientific, as one BBC producer dared to suggest to me recently.

"With the use of a biological dictionary, I have re-written the article completely, and put a punch- (I hope) into it. I have gone out of my way to ensure an accurate interpretation and I have sent it to BASRA for publication. But I tell you what I would consider the greatest honour is, if you could publish it complete in the Newsletter. It, (at least the subject) deserves a special edition of the Newsletter.

"Even in my wildest dreams I did not dare dream that Prof. Suda had achieved so much. This experiment now "gospelized" by NATURE will shake scientific sceptics."

Many thanks to Gerald Evans for locating it and reporting the experiment so quickly. We will attempt to reprint his complete article, which is long and detailed in the next newsletter. Perhaps it will suffice for the moment to announce the news and reprint the history and reactions of its acceptance to date.

Numerous newspapers contained short articles on Suda's achievement. One writer, apparently from the NY Tribune, broke the news as follows:

More than six months after a cat's brain was separated from its owner and put into deep freeze, it was revived. No matter how much you are astonished by this laboratory feat, the scientific authorities on brains will be astonished even more.

One of their most firmly held convictions is that brain cells (of man or cat or whatever creature) are highly vulnerable to any lack of oxygen. The human brain is irreparably damaged when deprived of oxygen-carrying circulating blood for even a few minutes.

In deep freeze there is no oxygen for a brain. Three Japanese scientists performed the feat to prove that brain cells are no more vulnerable to oxygen lack than other cells.

AGING CONTROL NOT AS DISTANT AS WE MIGHT EXPECT SAY TWO SCIENTISTS

Biologists are on the brink of discovering a method whereby senility may be eliminated. So says a rather famous professor of biology at California Institute of Technology, Dr. James Bonner. Not only this but scientists may be able to control future human evolution to the extent that "the most attractive life spans" could be provided.

Robert Sinsheimer, biophysicist at Caltech, seemed to be on an exact wave-length with Bonner for he stated, "Even the timeless patterns of

IT'S SOONER THAN YOU THINK -continued-

growth and maturity and aging will be subject to our design. We know of no intrinsic limits to the life span. How long would you like to live?"

IF A PERSON WERE FROZEN TODAY IS REANIMATION POSSIBLE IN THE MORE DISTANT FUTURE? DO THE EXPERTS (AND THE INEXPERTS) THINK IT IS POSSIBLE OR IMPOSSIBLE?

This is a continuing debate as indicated in the letters below and evenly divided pro and con. Our first letter is by Armand Karow, Jr. cryobiologist and research director at Interscience Research, Jackson, Mississippi. His bibliography and opening letter were published in FWR #26.

TO THE MEMBERS OF THE LIFE EXTENSION SOCIETY:

At the invitation of Mr. Ev Cooper, I as a cryobiologist am taking this opportunity to add to the comments of Prehoda, Cooper, and Ettinger which were published in the August-September FWR newsletter. I would also like to consider seriously a question posed in the July issue of FWR:

"If you wished to try for a return to active life in the future, how would you dispose of your body at death? Freezing? Pickling? Dicing? Burial? Cremation?"

Mr. Robert Prehoda states dogmatically that the proposal to freeze the dying or dead at the present time is totally unfeasible. In a rebuttal of this statement, Cooper writes that "most of us have heard of a long list of predictions which were declared impossible and yet eventually came to pass; such as, atomic energy, the airplane, the rocket, the iron ship, radio, etc." This is quite true. Scientists together with laymen are quite impressed with the achievements that have been possible by the application of the scientific method. But unlike laymen, scientists are also aware of certain limitations of science. For example, scientists are limited by the natural laws of the universe. A basic law is the Einstein equation $E = mc^2$. Since energy cannot be created de novo, a perpetual motion machine cannot be created. Since matter cannot be created de novo, something cannot be created from nothing. If nature did not operate by such laws which are inviolable, our science itself -- which depends upon the predictability of these laws -- would be impossible.

A way of expressing the predictability of the natural laws is to state the probability of occurrence of such-and-such. To illustrate this let us consider the principles of thermodynamics which indicate that it is more probable for heat to flow from a warm body to a cold body rather than in the reverse direction. In this process the warm body cools and the cold body warms. But this is only a probability. Actually it is possible for a lake to freeze on a hot summer's day, the heat of the lake "flowing" into the atmosphere, and thus the air above the lake becoming even warmer. The probability of this happening, however is once in a period of time 10^{10} greater than the age of the universe! Nonetheless no scientist can doubt that there is a chance for this to occur.

The nature of the probabilities considered by science is similar to the thought contained in a tongue-in-cheek joke among the peoples of

the southern states of the U.S.: "Save those Confederate dollars, son, 'cause the South is going to rise again." Everyone realizes that the chance that some day this statement will be wise advice is so remote as to be non-existent. The scientist, like the modern Southerner, knows that some things are more probable than others, and that the lake freezing or the South seceding are among the very least probable.

Although I essentially agree with the thesis set forth by Prehoda, I believe Ettinger is correct when he states that "the truth is...not one (leading cryobiologist) denied that there is some chance of eventual revival (with today's techniques)." I, too, must agree that there is some chance, but this chance is so remote as to be non-existent. Literally the chance of reanimation of large masses of frozen living tissues such as a whole rabbit, dog, or monkey is about as great as the chance for a rusting model T Ford suddenly becoming like new by undergoing a spontaneous reversal of the rusting process.

The probability or chance of reversing damage done today during the freezing of large tissue masses -- even when cryoprotective agents are used is extremely slight. The best methods available do not sufficiently prevent damage to allow for recovery. The severity of this damage can only be fully appreciated by someone who has studied thoroughly the subjects of statistics, thermodynamics, and protein chemistry as well as cryobiology. The layman must simply take the scientist's word that this is true, just as he must take the word of the doctor that such-and-such a pill will help cure the patient rather than kill. If cryobiologists find that their methods give little hope for resuscitating frozen living tissue masses, the hope for reanimating frozen dead tissue masses as proposed by Ettinger is even less.

Suppose that relying on the scientific reality that reanimation is probable some time in the future "you wished to try for a return to active life in the future" and chose to dispose of your body at death by freezing, it would be well to investigate the probability of reanimation before finally making an investment. If it were calculated that such a feat would be probable sometime between 100 years from now and 1,000 years from now, certain questions should be answered. Would a \$10,000 life insurance policy be a large enough investment to keep you frozen until reanimation is possible? Currently "cryocapsules" for humans cost more than \$3,000, and from experience in the laboratory the cost of liquid nitrogen for a one-man capsule will be more than \$50 a month or \$600 a year. Other questions: Who will assume the responsibility for reanimating you after all your friends, too, are frozen? Where will all of these bodies be stored? At present on earth are living half of the people who have ever lived. Will there be room for all the bodies if a larger proportion of the world's population is persuaded of the wisdom of the freezing plan? Or, if the bodies are to be stored on some frigid distant planet, can LES or some other organization afford the transportation costs? If a freezer capsule were to cost only \$1,000 and if \$2,500 is consumed in liquid nitrogen costs before such a space journey becomes available to LES, the money remaining from the original \$10,000 just does not seem adequate to meet the transportation costs at current or even rates foreseeable in the next 25 years. Such thoughts as these make many people reconsider "the freezing idea." Is \$10,000 enough? Is even \$100,000 enough? Is the probability that my body will be preserved and that I will be reanimated even remotely great enough to allow me to feel comfortable about investing this money? Finally, even if unlimited funds were available to freeze and to keep frozen indefinitely any and all people who would desire this, what

assurance can be provided that the political climate between 100 and 1,000 years from now will be such that whatever government is in power, the freezers will be protected? Even today with a government that values the worth of the individual, cemeteries are bulldozed to provide land for shopping centers and superhighways.

In the face of such "odds" there is another choice which one might make for life extension. This second method, it is scientifically accurate to state, has the same order of probability for reanimation in the future as do the prospects of freezing today because the nature of damage incurred with both methods are similar, i.e. protein denaturation. This second method might cost less than an ordinary funeral and would certainly be no more than \$10,000. This method, as suggested by Cooper, is to "pickle" the dead in the manner used to preserve frogs for the use of biology classes. And certainly pickling is simpler than perfusing and freezing.

In closing, the reasonable hope of people concerned with life extension by cryogenic methods lies in the success of research in cryobiology. As Prehoda stated so well, "Reduced metabolism needs research funds, not freezer facilities. Proper R&D support is the only chance of achieving suspended animation" Money invested in \$10,000 life insurance policies for the purchase of personal freezing facilities would be better spent on sponsoring professional research efforts.

Already a few contributions have been made by members of LES to the freezing research done at Interscience Research. These have been welcomed but much more is needed. Although there are hundreds of cryobiological laboratories in the world, only about ten are actively exploring the problem of freezing large tissue masses with subsequent resuscitation. As Prehoda pointed out, unfortunately results cannot be guaranteed for the dollars invested in research, but when performed by competent, experienced professional scientists one can be assured that the money invested is made to work hard. Indeed, very encouraging progress has been reported from our laboratory and from others in the past few months. As I wrote in a letter previously published in FWR (July, 1966), if LES as a whole, or individual members would like to make a contribution to the work being done by Interscience Research, "I can assure you that the funds will be utilized with prudence, any significant findings will be made public through publication in a scientific journal." Your demonstrated concern for this work is appreciated as is the allocation of space in FWR for the reproduction of this letter in its entirety.

Interscience Research
P.O. Box 4282
Jackson, Miss. 39216

Yours very truly,
Armand M. Karow, Jr.
Research Director

THE EDITOR ATTEMPTS TO ANSWER ARMAND KAROW

If you will pardon me saying so, I'm pickled to death that my question has received the attention of such a fine cryobiologist as Armand Karow, Jr. But, Armand, if I may address you through the newsletter, if you don't write shorter letters than your last, LES is going to run out of paper. More seriously, Armand, you really must be pulling our collective leg in picking the pickling possibility?

Surely you wouldn't say that if Suda pickled one brain and perfused

and froze a second brain that he would get a better brain wave from the pickled brain after six months?

What do you think of Suda's experiment? Does it seem to indicate there was a serious problem of denatured proteins? I don't mean there won't be problems. But won't you fairly admit that Suda's work indicates that freezing the brain holds more promise than pickling?

I think, Armand, you passed up, perhaps graciously, a better alternative than pickling. That is dicing. You rightly and repeatedly worry in your letter about the difficulty of perfusing, and later warming after freezing, the large tissue masses. Dicing is the answer. No problem perfusing, no problem freezing, no problem warming, but there may be a slight jigsaw problem for the future. However, if this appears risky, let us return to freezing the whole body or at least the whole brain as Suda did with the cat.

There is one argument, Armand, that I blush to think you would use. That is: "The layman must simply take the scientist's word that this is true...."

If the layman always took what the expert said as gospel truth through the ages, I fear we might have neither our present civilization nor perhaps science herself. Let us both look at protein chemistry and any other such supposedly arcane subjects citing experiments or giving reasons that show reanimation cannot come to pass.

The cost of cryogenic storage is probably not relevant to our original debate. However, the additional side problems you raise are more than welcome. Fundamentally we wish to know if reanimation in the future, using tomorrow's techniques superimposed on today's freezing methods, is possible.

True, we have to use sufficient funds to initiate cryogenic storage of humans. But it is a fair bet that automated economies of abundance can carry the load easily in the future.

I do sympathize with your need for research funds. But as Ettinger has said of Prehoda in the next letter, he has the cart before the horse. Human cryogenic storage won't take away research funds, rather it will stimulate funds through the interest it generates.

* * *

ETTINGER WRITES CONCERNING PREHODA'S STATEMENTS ON CELL DAMAGE, ETC.

A few more comments on Prehoda's letter may be useful to some readers.

1. The statement that, in freezing large organs, "...most of the cells are damaged beyond any conceptual means of future repair..." was unsupported, and almost certainly untrue, even if we put a period after the word "damaged" and disregard possible new techniques. Actually, there has been little work with large organs, but apparently most of the cells are damaged little or not at all, even if the organ as a whole does not fully recover. Some mammalian organs have been successfully frozen and revived, although short times and relatively high temperatures were involved: see e.g. Armand Karow's letter in the July newsletter concerning rat hearts, and the article concerning dog kidneys by Mundth et. al. in Cryobiology, Sep.-Oct., 1965.

-continued-

2. The statement there would be "...less than one chance in ten trillion..." of repairing a certain kind of brain damage is unscientific in the extreme. I will not believe this "estimate" represents an actual calculation--let alone a correct calculation--until I see the mathematical details, and the explicit assumptions on which they are based.

3. The worth of a gamble depends not only on the chance of success, but on the value of success. The "expected gain" is the product of the probability of success times the payoff if success is achieved. The payoff here is so huge that even a small chance of success might be considered acceptable. Furthermore, even failure would pay off to some extent, since the dying will have additional hope; the bereaved additional comfort, and the stimulus to research will improve the chances of those dying later.

4. The invidious terms "cult" and "true believer", used by Prehoda, are not at all appropriate. We claim no divine revelation; we admit the possibility of error.

5. Prehoda says he had hoped our program might provide funds for research, but this has not happened. It does not seem to occur to him that he is putting the cart before the horse. The project has not grown enough to divert much money to research (although in fact some money has been contributed to research by LES and Cryonics members), largely because of the negativism of many scientists and physicians who presume to make value judgments, usurping the prerogative of the individual. The scientist may give his opinion on the chances, but beyond this if he uses his prestige to discourage freezing he is both presumptuous and stupid.

Bob Ettinger
Oak Park, Michigan

*

THE FOURTH ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE TAKES PLACE AT THE SHERATON-PARK HOTEL IN WASHINGTON OCTOBER 29TH.

Nine papers or talks were given in a small but comfortable conference under ideal facilities of the Sheraton-Park. The conference was an all-Saturday affair with lunch at the hotel, dinner at the best Chinese restaurant this side of Peking followed by a discussion late into the evening at a physician's home on emergency perfusion and freezing. The marvelous family style Chinese dinner was suggested by Prof. Gerald Feinberg. Whether the dinner colored opinions or not the feeling was that Feinberg's presentation was one of the intellectual highlights. Based on research now extant he saw the possibility of the eventual control of aging by the use of repressors in genetic engineering and the possibility of building specific viruses to enter cells and repair freezing damage. The titles of the various papers or talks are as follows:

1. TEN DISCOVERIES WITH SPECIAL IMPORT FOR FREEZE-WAIT-REANIMATE by Ev Cooper
2. SOME PROSPECTS IN BIOLOGICAL ENGINEERING by Gerald Feinberg.
3. FURTHER THOUGHTS ON SCIENTIFIC REINCARNATION by Ernest Karlson.
4. THE IMPORTANCE OF MAKING A WILL FOR FREEZING by Michael Hart.
5. THE WINTER OF OUR DISCONTENT AND THE DYNAMICS OF SELF HELP by R.C.W. Ettinger.
6. PROBLEMS IN CRYOGENIC STORAGE AND A SUGGESTED POWER SUPPLY by Leonard Kushnier.

-continued-

7. SOME LES STATISTICS AND COMMENTS TOWARD EXTENDING LIFE by John Prince.
8. THE NEED FOR ORGANIZATION by Saul Kent.
9. PROSPECTS WITH HOSPITALS by David London.

All of the presentations were followed by discussion. Thus far only the first paper is available in mimeographed form upon request. Some other items of interest brought out at the conference may be found below.

QUESTION OF WHERE TO HOLD THE 5TH ANNUAL CONFERENCE UNRESOLVED. CAN YOU HELP US RESOLVE THIS QUESTION?

Would you like to attend the World Fair in Montreal in 1967 and attend our 5th Annual Conference also? Or would you prefer to meet in Washington next year during or after the Society for Cryobiology meeting in the same city? These questions were asked of the participants at our Oct 29th conference. They were not able to state a clear preference for either city. Could you help us decide? If you would actually come to a conference in Montreal on October 14, 1967 or to a conference in Washington on the same date or earlier, let us know your preference. Drop us a card or write us a note soon. If the preference is for Montreal early arrangements are especially important.

 ** MONTREAL LES MEETING Thursday November 17th. 8:30pm, at **
 ** 245 Victoria Avenue, Westmount. A report on the 1966 FWR **
 ** Conference and a tape of the proceedings. Open to members **
 ** subscribers and friends. **

 ** WASHINGTON LES MEETING FOR NOVEMBER Tuesday November 15th, **
 ** the third Tuesday of the month. Georgetown Public Library, 7:30pm **

FIRST LES MEMBER DIES IN FRANCE IN A TERRIBLE AUTOMOBILE ACCIDENT

French LES member, Claude Mallia, of Villeurbanne, Rhone, is dead. He was the victim of a disastrous highway accident so severe the authorities said or claimed that it would have been impractical or impossible to perfuse and freeze him. Though we don't know the facts for sure the authorities apparently found that Mallia wished to be frozen. This unfortunate occurrence seems to indicate we must reinforce upon the authorities that a person has a right to be frozen should he die and they have an obligation to effect that desire to the best of their ability. Claude Mallia was a brilliant young man with outstanding promise. His tragic loss is great to us, to his family, friends and to the movement.

###

LES MEMBERS AND SUBSCRIBERS, AND THEIR NUMBER COMPARED TO OTHER GROUPS

Numerically we have over 725 members and subscribers on our rolls. Some are delinquent; some have dropped so our real number probably lies between 650 and 675. Cryonics of New York is reported to have 39 members. Cryonics of Michigan, which was formed by Bob Ettinger, and recently incorporated has 13 members reported.

LES MEMBERSHIP AND SUBSCRIPTIONS Students \$1. Regular \$2. Contributing \$5. Life Member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

TAIL END NOTE: LES NOW HAS FROZEN MONKEY IN EXPERIMENTAL CRYOGENIC STORAGE WITH THE DOG "BEL". Monkey courtesy of Forrest Walters.

STEPS IN ORGANIZING EMERGENCY FACILITIES FOR CRYOGENIC STORAGE

Our recent conference indicated the importance of organizing emergency freezing facilities at the local level wherever possible. What follows is a tentative and perhaps primitive proposal toward that end. Obviously the following plan should be amended where necessary.

1. The first need is that of a person or group willing to organize and build facilities. It is conceivable that one person could carry out most or all of the following. But a group to share the work, expense, and provide ideas and moral support would make the task easier. The group can operate formally or informally under any method or plan within the spirit of LES.
2. Some physical location for the facilities is needed. There are almost endless possibilities: A hospital would be ideal but probably unattainable at this early stage. Simply locate the best available: a member's basement, a garage, a laboratory, a clinic, any safe structure preferably cool to increase the efficiency of your refrigeration system.
3. Arrange some system whereby refrigeration can be available and available at any time if possible. There is no special mystique to cryogenic storage. You have one task: to get and keep the temperature low. Again there are endless alternatives. Here are two that we have actually done. One is simply a large insulated box dry ice freezer. The other is a deep freeze with the thermostat bypassed used in conjunction with dry ice. A suggested size for the insulated box would be 8'x 3'x 3' of $\frac{1}{2}$ " waterproof plywood insulated with 6" or more of polystyrene or better polyurethane. Build your own box and it should cost less than \$100. You should be able to locate a deep freeze suitable for approximately the same price. We have found the deep freeze much superior in reducing dry ice consumption.
4. PERFUSION. Again a hospital or clinic would be ideal. So far we have only rumors of hospitals available. Let us assume a private home, home of doctor or nurse, or nursing home. It would be your task to locate one of these, preferably with a willing physician and nurse. It can be done and it has been done. It is much easier to locate a willing nurse, or/& a willing nurse and doctor than to locate a willing hospital where most or all of the group that controls the hospital has to be won over to a still radical idea. Let us assume you have found a doctor or/& nurse, or someone trained in emergency first aid, etc., and understanding of what is needed. The general instructions for perfusion, cooling and freezing are found in FWR #17 and should be on hand. The necessary supplies should be on hand such as DMSO, glycerol, heparin, dry ice should be readily available, portable heart lung machine if available, and other equipment as indicated by the instructions. From our experience with animal experiments it would seem preferable to have the perfusate (balanced physiological saline solution and DMSO, let us say) mixed ahead of time and stored in a refrigerator.
5. AFTER PERFUSION AND COOLING the person might best be frozen by dry ice or/& deep freeze. A person could be frozen wrapped in alternate layers of sheeting, dry ice and blankets. As long as the dry ice is kept in supply the person will remain frozen. The insulated box with dry ice could be used for temporary storage and even transport until a liquid nitrogen freezer was obtained. Thus, this should be a start, an inexpensive practical plan for getting a person frozen and emergency storage facilities within the range of any group and possibly within the range of an individual.

INFORMATION AND HELP If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger: Bob has unselfishly made himself available for the best of advice and help in freezing. Marie Phelps-Sweet will act as Organizing Advisor.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Alamo(East S.F.Bay) ..	(415)837-6017	Mrs Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Antwerp, Belgium	014-30 -157	Victor Peeters, or, 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston		Ed Randall
Calgary		Gordon Petts
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N! Jensen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also(313)LI6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hull, England	48114 Hull	Alan Worsley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Lyon, France	72-00-31	Roland Missonnier, leave message.
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal,	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
San Jose, Costa Rica..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski
Los Angeles	(213)DU2-7659	Helen Kline Dr, (213)883-5640

FOR FURTHER INFORMATION WRITE TO:
(This is our mailing address
not offices.)

LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-

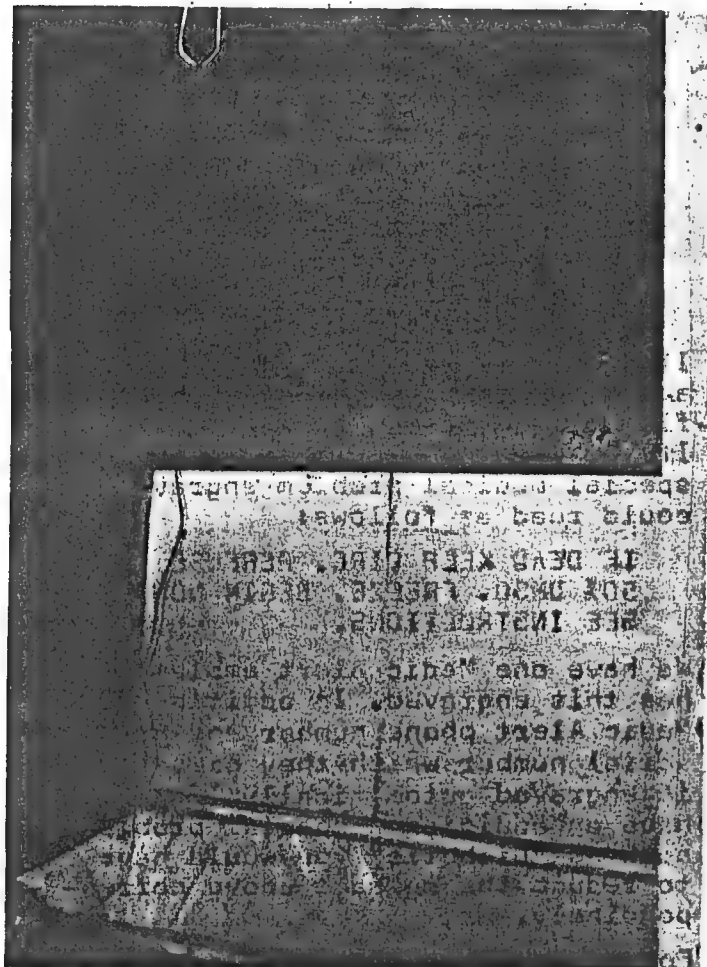


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2911 "N" STREET N.W.

WASHINGTON, D. C. 20036



SIMPLE EMERGENCY FREEZING CONTAINER ASSEMBLED BY MARC COLLET IN FRANCE

No sooner had LES suggested that emergency facilities could be organized in any area than Marc Collet replied that it had been done in France. If we understand the French text rightly

-continued p. 2-



Example of Medic Alert Emblem

LES MAKES ARRANGEMENTS WITH MEDIC ALERT FOR EMBLEMS WITH FREEZING INSTRUCTIONS

Arrangements have been made with Medic Alert Foundation International, a nonprofit organization, for freezing instructions on the reverse side of a Medic Alert emblem and for a 24-hour collect emergency telephone service.

Medic Alert is dedicated to "educating and encouraging individuals to wear on their person identification of any medical problems that should be known in an emergency." Emergency freezing instructions would be relevant in the event of death.

Recently an LES member died in a terrible auto accident. The authorities chose not to freeze him saying the accident was so destructive that it

-continued p. 2

-copyright 1966-

TEMPORARY FREEZING DEVICE cont.
he had an exterior case built 2.3 x .9 x .65 meters for 80 Francs (\$16) and then lined it with two thick layers of polystyrene expanded. With the help of other members of his family he obtained some perfusion equipment for a gravity system. Apparently the tubing and part of the perfusate container can be seen in the photograph on page one,

This isn't something that Collet, head of LES in France, did all of a sudden. He has been studying alternative systems and gathering materials for quite some time. He lives a short way from the city of Nancy where he has the cooperation of LES Coordinator, Dr. Emile Leclerc. Collet's request for aid in this work will be found toward the end of this newsletter.

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MEDIC ALERT OFFER -continued-
would have been impossible to perfuse the victim.

In a rare instance this might be true. But in the vast majority of fatal accidents the person could be perfused and frozen if there is a willingness to do so. To the extent those interested in freezing can produce persuasive forceful instructions the more likely the victim will be preserved.

The advantage of Medic Alert is that it is an accepted medical device and it might provide extra force and persuasion.

If the bracelet or tag instructs freezing in the event of death, and directs medical personnel to further instructions, there is a better chance that such freezing will be carried through. The day and night telephone service might add to this persuasion by providing further information and

MEDIC ALERT -continued from below-
contact with others in LES.

The disadvantage, if there is any, is that it is costly, at least in the sense that your emblem and phone service costs more than three times the cost of regular LES membership.

If Medic Alert is too expensive for you, there are alternatives:

1. You can rely on your freeze-card alone which should be in your wallet or purse anyway.
2. You can obtain less expensive tags, bracelets, or other medical signal devices from various companies. These devices likewise would combine with instructions which could be carried if you so desired.

If, however, you do decide to take advantage of Medic Alert, you should find a form with this newsletter. If you have no allergies, etc., the special medical problem engraving could read as follows:

IF DEAD KEEP CIRC. PERFUSE
50% DMSO. FREEZE. BEGIN NOW.
SEE INSTRUCTIONS.

We have one Medic Alert emblem which has this engraved. In addition the Medic Alert phone number and your serial number which they give you is engraved automatically. If you have an additional special problem such as "Diabetic" you would have to reduce the message above correspondingly.

For Medic Alert in other areas write as follows or request info of LES:

Canada Medic Alert	Medic Alert
176 St George St.	43-A Wigmore
Toronto, Ontario	London, W.I.

Medic Alert De France
I. Saint-Martin, President
GASARUPA, 171/173
Rue de la Roquette
Paris XI^e 75, France

AFTER 203 DAYS IN DEEP FREEZE CAT'S BRAIN RETURNS TO LIFE

by
Gerald Evans.

It is claimed that if the blood supply to the brain is cut off for a few minutes the brain cells are irreversibly damaged. When this happens the mechanism which gives a man his consciousness is finished. The "awareness" of that person, who never was before birth and can never be again, is lost for ever, unless super science of the future can decode the mechanism of the cells and reconstruct them.

There is however another suggestion, and that is that the micro-circulation of the brain cannot be started up again, after the deprivation of oxygen from the brain cells. So, this may be the reason for brain death.

This idea stems from experiments which have been tried on cats' brains.

To prove that the cerebral nerve cells could survive for long periods, a cat's brain was isolated, using techniques to keep its micro-circulation effective and stored in a frozen state.

THE CAT IS PERFUSED

Whilst the cat still lived it was perfused with a solution of cooled salt. Then by surgery whilst the process continued, its brain was isolated. To the brain was then circulated an increasing amount of glycerol to the perfusion solution up to 15 per cent. Slow cooling eventually took the brain down to -20 degrees C. It was maintained at that temperature, and finally subjected to a slow thaw.

The method pursued the following programme.

1. The cat was anaesthetized with "Nembutal".
2. A small tube linked the perfusion apparatus on one side to the cat's internal maxillary artery, after ligation of the occipital, auricular, temporal, alveolar, ophthalmic arteries and the optic nerve.
3. Before perfusion of the cooled salt mixture, 5 mg/kg of heparin was intravenously injected.
4. Hanks solution, adjusted to the correct pressure with 4-6 per cent dextran or hydrodextran, cooled to about 10 degrees C was circulated through the brain by pumping.
5. The carotid artery was let to displace the blood so that the perfusion solution could take its place.
6. The other side of the brain was dealt with in like manner.
7. The vertebral arteries on both sides were ligatured, and the spinal cord was cut.
8. Various bones, and other tissues were severed, so that the cat's brain within its skull was completely independent of its body.

STORAGE OF THE CAT BRAIN

The cat's brain within its cranium was connected to perfusion apparatus which permitted circulation of the perfusate to which glycerol was added every 10 minutes. This apparatus with the preparation was placed in a plastic container with a supply of the final artificial solution.

In the organ chamber of this container was placed the encraniumed brain above the apparatus. The container then with the cat's brain and pumping mechanism was placed in a deep freezer and taken down to a holding temperature of minus 20 degrees C.

Several cats were dealt with in this way, but the most interesting result came from the brain of one cat which was placed in the freezer on December 17th., 1964 and not taken out until July 7th., 1965 ----

-continued next page-

STORAGE OF THE CAT BRAIN-continued

-- 203 days ! Interesting because of the length of time it was stored !

From the other cats' brains that were stored for various lengths of time, evidence of the return to cerebral activity after thawing was confirmed by electrocorticograms which showed strong and persistent ECG's. Photomicrographs of the brain tissues so revived showed the brain cells to be quite normal.

The experiment on the long range freezing and storing was performed on a cat that weighed 2.8 kg. It was perfused at first, intact, after being made unconscious with "Nembutal". It was perfused with 4 per cent dextran and Hanks solution at 10.5 degrees C via the internal maxillary arteries under mecurial pressure of 90/80 mm. The brain in its skull was isolated and a mixture of glycerol used for its perfusion. The brain was then placed in a plastic container with a supply of artificial solution, and taken down to the temperature of minus 20 degrees C. At this temperature it was stored for 203 days.

On being taken out of deep freeze after this startling period of time, the brain was washed of its glycerol with the circulation of dextran and Hanks solution at 7 degrees C. After 20 minutes of this the temperature of the brain rose to 12 degrees C. Then, with lowered pressure the circulation of the solution continued for more than 30 minutes. During this period the brain temperature was between 12 and 16 degrees C in a room which had a temperature of 26 degrees C.

Then followed the most fascinating process of all, and as it succeeded, the scientists who witnessed it, must have felt that something more of the mastery of death was within mankind's reach. Make no mistake about the implications of what followed as the experiment proceeded. Man weakened further the superstitious belief that only a remote God had the power of life and death. Into men's hands came the knowledge that will eventually make it possible for men under suitable conditions not to be lost forever.

THE BRAIN LIVES AGAIN

The cat's brain was put into an incubator and provided with a warm blood circulation of diluted fresh cat blood of 37 degrees C mecurially pressurized at 70/55 mm and pulsating at 118/min. The brain's warmth went up to 34 degrees C in fifteen minutes and then to 38 degrees C in the next half hour with an adjustment of mecury pressure to 80/60 mm. These conditions continued for the rest of the experiment.

It is impossible to imagine the intensity of the drama which occurred as the scientists obtained electrocorticograms at various stages during the brain's revival. Electrical discharges were received and recorded from the cerebral cortex, the hypothalamus and the ipsilateral cerebellar culmen. The whole brain was alive !! This, after 6½ months storage in deep freeze !

So, brain cells can be preserved intact, and the protective effect of glycerol against the formation of ice crystals and the destruction of the integrity of the cells has been proved.

These scientists, Professor I. Suda, Dr. R. Kito and Dr. C. Adachi of the Department of Physiology, Kobe University School of Medicine and Growth, Research Institute, Kobe Medical College, Ikataku, Kobe, Japan, have given us more than atomic energy, more than space travel. They have given us something, which if developed will take the supposed ineluctability of death from the world for ever. For surely, if this experiment can be carried to the human brain, it can be stored for capitalisation by the super scientists - perhaps only a century away - men need die no more !

-continued next page-

CAT BRAIN REVIVED continued

Findings from this wonderful experiment, apart from its other revolutionary implications, are that the perfusion of a living brain with other than oxygen carrying blood, for over two hours, did not destroy the cells of the brain. This same artificial solution was also able to restart the brain's micro-circulation, and thus achieve its revival after long storage, during which time the brain was lifeless. It would seem also that the brain cells are not so completely at the mercy of an oxygen supply as was once thought.

Members of the Life Extension Society today are feeling vindicated; for NATURE Vol 212, No 5059, October 15th, 1966, on page 268, under the title of "Viability of Long Term Frozen Cat Brain In Vitro" carries this report more technically written than the article you have just read, and what NATURE publishes, scientists everywhere esteem.

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SUGGESTIONS BY TIM SLATER CONCERNING INSURANCE, FREEZING, & ANTARCTIC

....Found a corporation for the purpose of providing freezing facilities; let people (surely at least every member of LES would join) make payments just as they would for a \$10,000 life insurance policy; with the assets of several hundred policies borrow a large sum of money to start construction of a freezing facility and supply the most advanced freezing techniques; use part of the money to finance cryogenic research. Is there a lawyer in LES with knowledge of company law to advise on the setting up of such a non-profit group?

The advantages are:

A large sum of money is immediately available.

All the money goes for freezing and costs, none for profits.

Combining research (either by our own researchers or by the contract system the government uses in most cases) testing and use of equipment, construction of facilities and freezing we minimize delays in putting advances into effect.

All these points involve saving time. I presume we are all agreed that freezing programs will come sooner or later; our problem is to get one going immediately, if not sooner. So, unless someone can point out a serious flaw in this plan, let's get started right away - It's later than you think!

A few sidelights: there would be no need to provide for any refund in the unlikely circumstance that someone decided to withdraw; an arrangement could be made for those who at the moment might not be able to afford the installments, e.g. poor students like myself, they could sign promissory notes for the period until they were earning money; when large numbers of people want to be frozen the Antarctic would be a good place even though the temperature is not low enough. Under the terms of the Antarctic Treaty no country could exclude or control it. It is least likely to be affected by war, there is lots of room which nobody wants; the installation could be protected by building it deep under the ice, and the running costs for liquid nitrogen or helium installation would be seduced in this cold environment.

One might set up a nuclear power plant nearby (with no objections from area residents).... Being remote from inhabited areas such an installation ought to be easier to guard against those who for one reason or another might seek to wreck the freezers and I am sure there will be such people. ...

Tim Slater, Mount Carroll, Illinois

LETTERS CONTINUING REPLIES TO ARMAND KAROW'S LETTER IN THE PRECEEDING ISSUE OF THIS NEWSLETTER The debate has been on the question: If a person were frozen today is reanimation possible in the more distant future?

Dear Ev--

Finding Karow's letter both amusing and irritating, I'll add a couple of remarks to your answer, to use if you think them worth the space.

1. Karow, like Prehoda, implies that he has calculated the probability of revival of someone frozen by present means. I don't believe it. If he has such a calculation, I'd like to see it. If I find his mathematics too difficult, despite my considerable training, I'll get help from Dr. Feinberg or one of the other scientists in LES.

2. To assert that something, possible in principle, will never be done in practice, requires both immense pessimism and immense vanity -- it sets an arbitrary upper bound on progress, and it assumes that new approaches will not be found, ever.

3. Karow says the layman must take the scientist's word on what can be done., just as he must take the physician's word. But physicians disagree, and so do scientists. During the war, several consulting surgeons thought my leg had to be amputated; only one thought he could save it. Not being an idiot, I put myself in the hands of the lone optimist, who did in fact save my leg. The parallel is obvious, and the stakes in our program incomparably greater.

Bob Ettinger, Oak Park, Michigan

Dear Ev,

That allusion to a rusting model-T Ford was excellent but not as Mr. Karow would expect. If the original blueprints are available and the rust isn't scattered but preserved, the car could be reproduced identically. Of course each atom of iron wouldn't be in the same place as it was originally but what difference does that make? ...The human body is continually changing while life is going on anyway.

But freezing is different. It is like having taken that old model-T years ago before it rusted out but when it threw a rod and then preserving it so it can't rust or deteriorate and now de-preserving it and putting in a new rod, cylinder head or whatever is necessary. Fifty years later it could be as good as new! ...

Ponder over the fact that (before life existed) we shouldn't be expected to exist now because how could life possibly come about by accident or many persistent accidents of methane, lightning, etc? It was a possibility by my god, how remote a possibility "like the South seceding." ...

As for cost ... how much would it have cost to fly to Europe a hundred years or more ago? Not all the money in the world would have been enough! Now it is only about \$200. So freezing may get cheaper. ... Sure we might blow up the world. But barring that the odds are heavily in favor of successfully implementing FWR, biological reconstruction, genetic engineering, aging control, and you name it.

If humans aren't smart enough, we will increase our intelligence. Barring that we will create machines smart enough. Just as an immeasurable amount of lightning may have been necessary to bring the chemical reactions to create life so, if necessary, can man devote that much effort to enhance his destiny. ... Sincerely Yours,

Joseph Zeletski, Los Angeles, Cal.

Mes chers amis,

Il me semble que nous avons gardé la mentalité d'un temps où l'homme n'était pas encore potentiellement immortel. Notre attitude devrait être autre car la mort frappe n'importe qui n'importe quand. Si demain en France l'un des vôtres est menacé de mort imminente nous ne pourrions peut-être pas le congeler dans les meilleures conditions possibles et nous risquons de le perdre pour toujours. Nous le priverons ainsi, non pas de quelques années ou de sa vieillesse, comme autrefois, mais bien d'une très très longue jeunesse et d'une existence véritablement humaine auprès de laquelle notre vie actuelle n'est qu'un état larvaire. Alors, si grâce à la Congélation nous avons ensuite, nous, le triste bonheur de pouvoir vivre très longtemps, nous risquons de trainer avec nous dans le futur des regrets très amers.

Des événements dramatiques récents ont violemment ému plusieurs d'entre nous et le Dr. Marcel de Lacroix-Herpin, coordinateur de la LES à Lorient et neuro-psychiatre très connu vient de m'écrire : "... je suis prêt à donner 1000 F (\$200) pour contribuer à l'achat d'un congélateur ou de matériel de perfusion, ou de matériel (ou récipients) pour emmagasiner de longue durée. Le Dr. Emile Leclerc dit à peu près la même chose ainsi que plusieurs de nos camarades dont les situations financières sont très diverses; par exemple ces jeunes étudiants en Sciences ou en Médecine pour lesquels une participation, même petite, représentera un véritable sacrifice. Pourtant chacun est prêt à cotiser selon ses forces et ses moyens. Je ne sais pas quelles sommes nous pourrions recueillir ainsi, mais il y a évidemment urgence et je demande à chacun d'écrire à la LES sans aucun délai pour indiquer quelle somme, même symbolique, il entend consacrer. (Ecrire: Marc Collét, 54-Rosieres Aux Salines)

Bien sûr cet appel s'adresse à tout citoyen du Monde, qu'il habite Washington, Paris, Copenhague, Monaco ou le Koweït. L'endroit de la planète où commenceront les congélations n'a guère d'importance. Il s'agit en fait de donner le départ aux recherches et aux découvertes de la Congélation puis de l'Animation Suspendue. A cause de l'attitude assez bienveillante des médecins et de plusieurs scientifiques éminents la France serait justement l'une de ces terres privilégiées où pourrait germer une telle graine. A condition de pouvoir congeler les gens convenablement à l'occasion se présente....Vér. en France le billet de banque est parfois hélas une denrée encore assez rare. Parmi nos amis américains quelqu'un peut-il et veut-il cotiser? ..Pour jeter son épée dans la balance et changer le cours des événements. Pour sauver beaucoup de gens de cette Terre, ou peut être même l'un des siens.

Je profite de cette lettre pour souligner l'importance de l'article du Dr. Leclerc dans la Newsletter de Août-Septembre 1966, (p.7). Il envisage la Congélation sous l'angle encore plus vaste du respect et de la protection de toute vie. Je trouve qu'une telle attitude devrait donner l'envie aux meilleurs philosophes et savants de nous épauler davantage, et qu'elle devrait aussi leur en fournir le prétexte. Plusieurs de ces grands hommes sont très inquiets parce que nous polluons la terre et l'océan, l'atmosphère et jusqu'à l'espace cosmique, et parce que nous transformons la planète en poudrière. Et plusieurs d'entre eux, dont Jean Rostant bien sûr, participent maintenant, ouvertement et activement à toutes les manifestations contre la misère et la guerre, soit en fait contre l'ignorance, la lâcheté et le crime. Leur combat est notre combat. Ne laisse-t-on pas tranquillement mourir nos pères et nos fils à jamais ! ... Alors que la Vie est l'expression la plus haute, et, en fait la seule expression de toute réalité.

Salut et longue vie à tous, et ... "endless best regards". Collet.

LETTER FROM MARC COLLET REQUESTING AID

My dear friends,

It seems to me we have kept the mentality of a time when man was not yet potentially immortal. Our attitude should be different because death strikes anytime. If tomorrow in France one of yours is threatened by imminent death we may not be able to freeze under the best possible conditions and we risk the loss for always. We shall deprive the person lost not only of some years of his old age, but of a very long youth and of a really humane existence next to which our present life is but an opening phase. If thanks to freezing we are able to live in a future life, we shall have sharp regrets that we did not freeze others.

Some dramatic recent events have abruptly moved several of us, and Dr. Marcel de Lacroix-Herpin, coordinator of LES and well-known neuro-psychiatrist to write me: "...I am ready to give 1000 Francs (\$200) to contribute to the purchase of a freezer, or material for perfusion, or for material for containers for long term storage. Dr. Emile Leclerc said about the same thing and some of our comrades whose financial situations are diverse; for instance, these young students of science and medicine for whom even a small contribution would be a true sacrifice. However, each one is ready to contribute according to his means. I don't know what will be the amounts, but it is evidently urgent and I am asking each one to write to LES without delay in order to indicate what sum, even symbolic, he intends to contribute.

Of course, this appeal is addressed to all citizens of the world -- in Washington, Paris, Copenhagen, Monaco, or Kuwait. The particular place of this earth where freezing will start has no importance. The main thing is to start research and discoveries of freezing and then suspended animation. Because of the rather kind attitude of doctors and several eminent scientists France would be one of the privileged nations where the seed might germinate. On condition, of course, if we can freeze people properly when the occasion arises. In France, however, banknotes are unfortunately a very rare product. Among our American friends, would somebody be able and willing to contribute? ...To throw his sword in the balance and change the course of events, to save many people of this earth and maybe even one of his own.

I take the opportunity in this letter to underline the importance of the article by Dr. Leclerc in the newsletter of August-September '66, p.7. He envisages freezing in respect and for protection of all life. I find such an attitude should make the best philosophers wish to support us even more and that it would give them the pretext. Many of these great men are very worried because we are polluting earth and ocean, the atmosphere and cosmic spaces, and because we are transforming the planet into a powder keg. And several among them, of whom Jean Rostand, participates now, openly and actively in all manifestations against misery, cowardice, and crime. Their struggle is our struggle. Let us never calmly allow our fathers and sons to die when life is the highest expression and the only expression of all reality.

Salutations and a long life to all. Marc Collet

Contributions can be sent either directly to Marc Collet, 54-Rosieres Aux Salines, France, or to LES Washington. French LES members will probably find it more convenient to send or write directly to Marc Collet. Collet has a good point for European institutions often lead the way in medicine. Johns Hopkins just announced that it has accepted change of sex operations which had been pioneered and accepted in some European hospitals long before U.S. hospitals would even consider them.

The above letter is a translation of the original on page 7. We have tried to get the sense of the letter and hope we haven't unduly distorted the original meaning.

WILL FORM

The following is a copy of the words of a last will and testament with the identifying names of persons and places deleted. It was drawn in New York by Michael Hart, an attorney. He wishes to stress that "This form is a sample. It is presented by the Society as a guide for the individual and his attorney. The final instrument should be prepared by an attorney familiar with the individual's particular testamentary need and desires." (The original was double-spaced. Identifying terms such as "name of person", "he or she", "husband or wife" and "number" have been added by the editor.)

LAST WILL AND TESTAMENT

OF

(name of person)

I, _____, residing at _____, City of _____, County of _____, State of _____, do hereby make, publish and declare this to be my LAST WILL AND TESTAMENT, hereby revoking all wills and codicils heretofor made by me.

ONE: I direct that, as soon as possible after my death, my body be perfused with the best protective agents available, frozen, and cooled to very low temperatures. I also direct that my body then be carefully stored and preserved at very low temperatures, until such time as the advance of medical science makes it possible to reanimate me.

I am fully aware that there are many scientific, medical and practical problems to be overcome before I can be reanimated, and that there is a large probability that I will never be successfully reanimated. Knowing all this, I nevertheless direct that every possible effort and attempt be made to perfuse, freeze, and store my body, as described and directed in the preceding paragraph.

I direct that whatever expenditures are necessary to accomplish my aforesaid directions shall be considered funeral expenses and paid out of my estate and that my executor or any substitute shall not be bound by standards ordinarily applied to expenditures for funeral expenses, but may make such expenditures as he, in his absolute discretion, shall consider necessary to carry out my aforesaid directions.

TWO: All the rest, residue and remainder of my estate, of whatsoever kind or character and wheresoever situated, including any property over which I may have a power of appointment, I give, devise and bequeath to my beloved _____ (husband or wife), _____ (name of husband or wife), if _____ (he or she) should survive me; and I intentionally make no provision herein for any child or children of mine hereafter born because I am confident that my _____ (husband or wife) will amply provide for all such children.

If my _____ (husband or wife), _____ (name of that person), does not survive me, then I leave the residue of my estate, per stirpes, to such of my issue as shall survive me.

THREE: I appoint my _____ (husband or wife), _____ (name of that person), the executor of this will, and direct that he shall not be required, in this or any other jurisdiction, to furnish any bond or other undertaking for the faithful performance of his duties. I give said executor, _____ (name of person), the fullest power and authority in all matters and questions concerning the estate, to the

WILL FORM continued

same extent as if he were the absolute owner thereof; including, without limitation, authority to make any type of investments in his unfettered discretion, authority to enter into any contracts on behalf of the estate for the purpose of furthering my wishes with regard to the disposition of my body, and authority to do all acts which I might or could do if living.

FOUR: Although it is my understanding that my _____ (husband or wife), _____ (name of person), is or may be executing his will and testament at or about the time of the execution of this, my last will and testament, it is not my or our intention that such wills shall be construed or deemed to be mutual, reciprocal, or dependent one upon the other nor are such wills executed pursuant to a contract.

IN WITNESS WHEREOF, I sign, publish and declare this as my LAST WILL AND TESTAMENT this _____ day of _____,

(signed)

(name printed)

The foregoing instrument, consisting of _____ (number) pages, including this page, was in our presence signed, published and declared by _____ (name of person), the testatrix, to be her last will and testament; and we, at _____ (his or her) request and in _____ (his or her) presence and in the presence of each other have hereunto subscribed our names as witnesses this _____ day of _____.

residing at _____

residing at _____

residing at _____

-2-

ABOUT WILL FORMS, INSURANCE, TRUST AGREEMENTS, AND AFFIDAVITS

Other wills from LES members in other states have been filed with LES. Some have offered that we may duplicate them as above. Time and space permitting we will do that at a later date. Also affidavits will be reproduced in a later newsletter.

In Michael Hart's presentation at our recent FWR conference he made some of the following points: An adequate insurance policy and will or trust agreement is essential. Ordinary life insurance was recommended but declining term is a possibility for those on close budgets.

A trust could be most suitable when your spouse or family do not actively approve of your order to be frozen at death. A trust sets aside funds for freezing and names as trustee someone who firmly believes in the idea. Two types of affidavits could be useful: one expressing your desire to be frozen as on the freeze-cards, another signed by close relatives giving their consent to freezing.

Affidavits might also be helpful with doctors and hospital administrators especially in the early stages of our movement. If a person can get a simple statement signed by anyone concerned that indicates they understand your desire to be frozen and agree to help or not prevent it will pave the way should freezing become necessary.

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L I F E E X T E N S I O N S O C I E T Y

2011 "N" Street, N.W.

Washington, D.C. 20036

July 8, 1966

FINANCIAL STATEMENT

	9 month Period Ending June 30, 1966	Fiscal Period Ending Sept. 30, 1965	Fiscal Period Ending Sept. 30, 1964
<u>ASSETS</u>			
Petty Cash.	\$ 19.15	\$ 63.12	\$ 31.00
Bank Balance	2,135.37	388.38	-
Total Assets	<u>2,154.52</u>	<u>451.50</u>	<u>31.00</u>
<u>INCOME</u>			
Memberships	495.80	103.89	-
Subscriptions	218.50	419.25	64.11
Special Donations	2,252.99	421.79	1.00
Total Income	<u>2,967.29</u>	<u>944.93</u>	<u>65.11</u>
<u>EXPENSES</u>			
Office Supplies	8.72	91.69	8.35
Postage	452.76	135.92	-
Printing	320.72	153.76	-
Advertising	103.28	28.16	-
Research	262.76	61.66	-
Annual Conf.	68.03	25.66	20.76
Misc.	51.03	27.59	5.90
Total Expenses	<u>1,264.27</u>	<u>524.43</u>	<u>34.11</u>
NET GAIN	<u>\$1,703.02</u>	<u>\$420.50</u>	<u>\$31.00</u>

WILLIAM ALBERT ALBAUGH

3368 Chillum Rd.

Mt. Rainier, Md. 20822

Treasurer

"WONDERFUL ARTICLE BY FEINBERG IN PHYSICS TODAY! It was brought over to me by a friend in the physics department here! 'Physics and Life Prolongation' (p.45), Nov. 1966." -A note from Prof. E. Wesley Walton. Prof. Gerald Feinberg, physics department of Columbia University, LES member and adviser, has written an excellent article as indicated above. He discusses freezing, civilization in the future, and is especially interested in our goals as humans in respect to science and our futures.

THE BOOK CRYOBIOLOGY RECENTLY PUBLISHED

This book, edited by Harold Meryman, of National Medical Center, Bethesda, is a rather formidable tome of 750 pages claiming to be the first comprehensive review of cryobiology (low temperature biology). The stress seems to be on understanding freezing in micro-organisms and small sections of various tissues though freezing of insects, molluscs, and plants is also discussed. It is published by Academic Press and costs \$25.

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*                                     *
*   NEXT WASHINGTON LES MEETING JANUARY 17TH   *
*   The third week in December being too close *
*   to the holidays, the next meeting will be *
*   the third Tuesday in January at the George- *
*   town Public Library, 7:30pm.               *
*                                     *
*****

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LES MEMBERS AND SUBSCRIBERS, AND THEIR NUMBER COMPARED TO OTHER GROUPS

Numerically LES has over 740 members and subscribers on our rolls. Some are delinquent; some have dropped, so our real number probably lies between 665 and 700. Cryonics of New York is reported to have about 40 members. Cryonics of Michigan was recently incorporated with about 15 members.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life Member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

THE LES NOMINATING COMMITTEE for 1967 presents the following slate of officers:

Bill Albaugh	Treasurer	-from- Maryland
Marc Collet	Recording Secretary	France
Ev Cooper	President	Washington, D.C.
Peter Kline	Parliamentarian	Maryland
John Prince	Vice-President	Washington, D.C.
Prof. E. Wesley Walton	Corresponding Secretary	South Carolina

Any comments or suggestions on, or questions about, this slate may be addressed to the Chairman of the Nominating Committee:

Mrs. Rachel Rynex phone (202)337-3840
 3918 "W" Street Nw.
 Washington, D.C. 20007

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing. Marie Phelps-Sweet will act as Organizing Advisor.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Akron, Ohio	(216)535-0105	Neil Shapiro
Alamo(East S.F. Bay) ..	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Antwerp, Belgium	(014)-30-157	Victor Peeters, or, 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston		Ed Randall
Calgary		Gordon Petts
Camp Hill(Harrisburg) ..	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also (205)588-3101
Hull, England	48114 Hull	Alan Worsley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)529-2702	Russ Stanley & Bob Johnson
Manchester, England ..	CEN 5601/2	Brian Gilbert
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Costa Rica ..	28.58	Henry Donnat
Simi, California	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel.book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski
Los Angeles	(213)DU2-7659	Helen Kline, or, 213)883-5640

FOR FURTHER INFORMATION WRITE TO:
(This is our mailing address only)

LIFE EXTENSION SOCIETY
2311 "N" Street N.W.
Washington, D.C. 20036

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FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

PHYSICS AND LIFE PROLONGATION

by Gerald Feinberg

SCIENCE AND TECHNOLOGY in the 20th century have made real many dreams of men in earlier ages. Among these are transmutation of elements and manned space flight. Another dream of many men in different places and times, that of elimination of aging and death, remains unfulfilled by us. Scientists who work on this problem do not know how to solve it or even whether it can be solved at all.¹ I cannot answer these questions here, and I believe that physics is somewhat peripheral to their solution. Instead what I shall do is to present a somewhat novel way of looking at the matter, based on an optimistic estimate of future scientific progress. In addition, I shall discuss how some results of low-temperature biology (cryobiology) open the possibility to those living of taking advantage of this progress before the problems of aging and death are solved. This possibility depends on development of reliable methods of freezing, storing at low temperatures and reviving humans.

Developing such methods would lead to many new potentialities for the human race. The most exciting of these seems to be that of being able to take advantage of future medical progress. The methods will probably involve cooperation among biology, medicine and physical science. This can be seen from a brief list of

some key unsolved problems in this area: (a) developing more efficient methods of heat transfer for cooling and thawing, (b) better understanding of the mechanism of damage in freezing cells, (c) discovery of more effective protective agents against freeze damage and (d) study of possible harmful effects of long-term storage on animals.

These problems may not be easy to solve, but in view of the immense consequences of their successful solution, we should undertake a strong effort to solve them. I shall try to indicate the important role that physics has in this effort. The reasoning I shall present is not original although I find it compelling. It has been given by Jean Rostand, for example, in more detail by the physicist Robert Ettinger in his book² *The Prospect of Immortality* and by Leo Szilard, in a story "The Mark Cable Foundation."³

Future progress of science

It has become commonplace to note that most people who have ever worked in science are still alive. Furthermore, most of the known fields of science have short histories, measured in decades. In view of these facts and of the obviously great advances in science and technology in this century, it is reasonable to expect that many problems we can not now solve will be solved by future

scientists and that many limitations of our present technology will not be limitations of future technology. Predictions by scientists of the future of science and technology do not usually recognize this and are therefore almost certain to be insufficiently imaginative or optimistic when compared with actual developments.

I believe the opposite approach is better, and a good first approximation for such predictions is to assume that everything will be accomplished that does not violate known fundamental laws of science as well as many things that do violate these laws. This is not a statement within a field of science but a statement about science. The distinction is important because some of the very talents required for successful work within a science, for example, step-by-step logic and suppression of extreme speculation, may be disadvantages in predicting what will be accomplished by methods as yet unknown. This paradox is neatly summarized in Arthur Clarke's law,⁴ which

Gerald Feinberg, professor of physics at Columbia University took his PhD from Columbia in 1957. His main interests are elementary particles and quantum field theory.



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 Temperature Change and Metabolic Rate

ΔE (kcal/ mole)	T_1 (°K)	T_2 (°K)	$\frac{\text{Rate } (T_2)}{\text{rate } (T_1)}$
10	310	80	$\exp(-46) \approx 10^{-20}$
10	310	190	$\exp(-10) \approx 10^{-4}$
20	310	80	$\exp(-92) \approx 10^{-40}$
20	310	190	$\exp(-20) \approx 10^{-8}$

says, "When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong." Although this law may not be universally true, it does suggest good advice for distinguished scientists.

The principle that everything possible will eventually be accomplished does not give any guide as to how long it will take to do any particular feat. Here again predictions are usually too pessimistic. Things we can think of today as possible, without knowing how to do, are the ones that will be done in a relatively short time. It is these things we cannot yet even imagine that will take longest to accomplish. I am inclined to put 200 years as an upper limit for the accomplishment of any possibility that we can imagine today.

Application of this view to progress in medical science leads to the conclusion that cures for all diseases that afflict man eventually will be found. This accomplishment would be just a step along the way toward regulating biological processes in living organisms on all levels from molecular to macroscopic. There seems to be no reason why macroscopic regulation should not be possible. Some biologists have already suggested steps that could be taken towards this goal.⁵ If one accepts that aging is a particular set of chemical and physical changes that occur within living organisms, the logic of this argument suggests that it will eventually be controllable and reversible, even if the methods are as yet unknown. This seems to me a much safer bet than the opposite view.

If it is true that "tomorrow will be better," in the sense described above, there remains the question of how this is relevant to prolongation of life for those alive today and in the near future. After all, someone dying of pneumonia in 1920 was not materially helped by development of penicillin therapy 20 years later. There is an approach to this problem that holds out promise to those alive now of taking advantage of future medical advances. This approach does not involve any major revisions in physics such as travel through time or any immense practical difficulties such as would be involved in using relativistic time dilation. It is based on the fact that biological processes are temperature dependent and that at sufficiently low temperatures, biological activity can be stopped for arbitrarily long periods, and then, in principle, and in many cases in practice, restored by rewarming. It is this possibility that will open the door to the future.

CRYOBIOLOGY AND THE FUTURE

It has been known since Arrhenius that the rate of biochemical reactions depends on temperature in a relatively simple way. The dependence, not hard to derive,⁶ is given by

$$\text{Rate} \propto \exp\left[-\frac{\Delta E}{RT}\right] \quad (1)$$

(R is the gas constant = 2 cal/degmole, T is the absolute temperature and ΔE is a constant characterizing the reaction, called the "energy of activation"). ΔE can be taken as an empirical constant although some

estimates of it can be given theoretically. For typical biochemical or biological processes, ΔG is 10 or 20 k cal/mole.

The rate equation holds not only for elementary biochemical reactions but even for such phenomena as human-heartbeat rate.⁶ It is clear from the equation that a substantial temperature reduction from the ordinary temperatures of living organisms will produce an enormous slowdown in the rate of biological processes, as shown in the table. (page 2)

The data indicate that a biological system maintained at low temperatures would for all practical purposes not undergo any metabolic processes involved in life or aging. But can such a system be brought to and from such a temperature without destroying it?

This question has been affirmatively answered for such simple systems as bacteria, yeast and protozoa.⁷ These have been frozen and stored at temperatures down to -190°C for periods up to years and then successfully rewarmed and revived. The deterioration rate of the stored organisms appears to follow the rate equation reasonably well.⁸ Techniques for ensuring survival of the organism have been developed somewhat empirically and are not completely understood. For example, in yeast, survival is greatest when the yeast is cooled slowly ($\sim 1^{\circ}\text{C}/\text{min}$) and warmed rapidly. This is not, however, a uniform phenomenon for all cells.

Successful freezing and thawing of a wide variety of cells of different types and from different species of multicellular animals have also been accomplished.⁷

In general, such cells do not remain viable if they are simply cooled below -10°C and later thawed. In 1949 C. Polge, A.U. Smith and A.S. Parkes⁹ discovered that avian spermatazoa in a 10% glycerol solution could be frozen, stored at -79°C , thawed and revived. It has since been found that glycerol has a similar protective effect on many other kinds of cells as do certain other agents such as dimethyl sulfoxide. There is no completely convincing theory as to how this protection occurs since it is not clear what causes damage to cells frozen without protection. One plausible theory, advanced by A.M. Kurow and R.W. Webb,¹⁰ is that damage in freezing occurs when the part of the water within a cell that is bound to the cellular protein freezes. This destroys the lattice of water molecules that helps to maintain the shape of protein molecules, and the protein then denatures. The function of the protective agent is then to strengthen the water lattices sufficiently that they are not destroyed in the freezing process. Other theories have also been suggested. This problem requires cooperation among physicists, chemists and biologists. With development of an understanding of freeze damage and protection, a more systematic search could be made for optimal protective agents, and it would not be surprising if better ones were found.

The next step to the freezing and preserving of organs over long periods has not quite been accomplished although partial successes have been reported in the journal Cryobiology.¹¹ There are obvious problems in freezing organs such as assuring reasonably uniform cooling, perfusion of the organ with cryoprotective agents and optimal methods of rewarming. It is also unclear whether the damage to the organs occurs during cooling, storage or rewarming. Here again collaboration between physics and biology appears called for.

FREEZING MAMMALS

In the meantime, interesting experiments have been done⁷ involving cooling of small mammals to temperatures not far below 0°C . Experiments have been carried out with hibernating animals such as golden hamsters. In the most successful experiments hamsters were cooled so that their deep body temperature was about -2°C , and about 50% of their total body water had frozen. They could then be kept for up to an hour this way

-continued-

and then revived by diathermy rewarming. Approximately half of the hamsters so treated recovered and lived out their normal life span. Thus far it has not been possible to extend the storage period or lower the temperature and still revive the animals for a long period.

Recently this work has been extended to nonhibernating mammals, rats, by P. and V.P. Popovic.¹² They were able to maintain young rats at -1°C for up to an hour in a supercooled state (that is with their body water still liquid) before thawing and reviving them. Short-term survivals (up to 24-hr. after thawing of frozen rabbits and primates (galagos) have been achieved. It is not clear why these larger animals eventually die or whether more efficient rewarming methods would serve to increase these survivals. None of these experiments involved use of cryoprotective agents, which would have obvious advantages in view of the results with cells.

Smith in her book⁷ concludes her section on mammals with the following comments. "So far no technique has been evolved for perfusing individual organs or the whole mammal with glycerol and removing it without damage. If this could be done, it might be possible to cool the intact mammal and resuscitate it from temperatures as low as -70°C . Long-term storage of frozen mammals might then be considered.... Progress along these lines may require a team of physiologists including experts in surgery, electronics and other disciplines." The experience of physicists working at low temperatures would be of great value in some of the technical problems in realizing this goal.

An interesting by-product of the experiments on cooling mammals came from work by R.K. Andjos et al,¹³ who cooled rats to temperatures just above freezing and maintained them there for 1-2 hr. At such temperatures the rats show neither heartbeat nor electroencephalography. The rats, however, could be revived fairly easily by diathermy rewarming. Rats that had been trained to solve problems of finding food in a maze were cooled and revived in this way. They retained the memory of their training by still being able to solve the maze. This experiment shows that memory is stable under cooling and thawing of the animal and indicates that memory involves some kind of chemical imprint in molecules rather than circulating electric currents since the latter had presumably ceased at the temperature where the EEG trace vanished. This conclusion about the nature of memory is in harmony with other recent experiments.¹⁴ The result is of vital importance for the prospect of freezing and long term storage of humans at low temperature since the preservation of memory and personality would be the main reason for undertaking such storage.

FREEZING HUMANS

Successful methods for freezing, storing and reviving humans would evidently have widespread applications. One that has been considered by many authors would be to make interstellar voyages possible; they would otherwise be rather difficult. Other technological problems, however, might delay this for some time. A much more important application would be to make it possible for people of the present to benefit by progress of the future. In our lives we make constant use of progress of past generations. Indeed civilization would be impossible if it had to be reinvented by each generation. With the advent of successful freezing techniques, we shall be able to rely on the future as well. Imagine a patient dying of a now incurable disease. If he could be frozen and stored indefinitely at low temperature, he could be revived when the cure for the disease is developed. He would then be in a position

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similar to someone born when the disease was curable. As an example, if freezing techniques had been available in 1920, a man then dying of pneumonia could have been frozen and stored and could now be thawed and treated successfully. In addition, he would be able to take advantage of whatever else the future has to offer.

It is quite possible that all diseases will eventually be curable, and aging may be avoidable and even reversible. When successful freezing techniques become available, no disease need be considered hopeless. A person dying of whatever cause could be frozen and stored in the hope that he could eventually be revived and cured. One can think of possible drawbacks to this for both individuals and society, but a great many people, and not only the incurably ill, would be quite willing to try it. Although PHYSICS TODAY is not the place to begin discussing the social consequences of a successful freezing program, it is perhaps worthwhile to remark that progressive increase of possibilities open to humanity has been one of the major contributions of science. In view of this increase and the 40 million people who die each year of diseases that will someday be curable, the need for an energetic program of research on cryobiology appears strikingly clear. It is hard to think of any scientific advance that would open greater possibilities. Yet relatively small amounts of money and few researchers are involved in this quest in the scientific world at the present time.

Ettinger, in his book, has carried the argument one step further. For the living it is necessary to await successful completion of freezing research before attempting to freeze them. For the newly dead this consideration is irrelevant since the dead have nothing to lose by being frozen, even by imperfect methods. Ettinger therefore proposes that even today bodies of those just dead, as determined by cessation of heartbeat, could be immediately frozen by whatever techniques are available. This freezing will cause some damage to cells, but we can hope that many of them, in particular brain cells, will be preserved by the cold before enough time has elapsed for them to have been damaged by deprivation of oxygen and nutrients. After freezing the body must be stored until scientists can both counteract the damage done in freezing and undo whatever led to the death of the person in the first place, such as a heart attack. It may seem unlikely that this combination will ever come to pass, especially with the primitive freezing techniques now available. Ettinger makes the point that damage done in thawing is not a problem for this approach since thawing will be done in the future only when that problem is solved. Furthermore a dead body is no deader for having been frozen and stored, and the expenses would not be orders of magnitude beyond those of ordinary funerals. Since many people might wish to take the small chance that they will someday be revived if they are frozen on their death now, it would seem reasonable to make this possibility available to some of these individuals.

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CURRENTLY THERE IS AN EMBARRASSMENT OF WEALTH AND VARIETY IN ARTICLES AND COMMUNICATION APROPOS THE FREEZING MOVEMENT

1. "PHYSICS AND LIFE PROLONGATION". We are exceedingly fortunate to have Gerald Feinberg with us in investigating the freeze-store-revive hypothesis and to have an opportunity to reprint his excellent article from Physics Today. It is impossible for us not to brag and name-drop. Professor Feinberg has been a most active contributing LES member since early 1965, and an adviser to LES. His article in Physics Today immediately precedes one by Robert Oppenheimer. More important is the reasoned presentation of his evidence and arguments leading to the distinct possibility that, freezing now, if all else is lost, is a rational alternative.
2. "VIABILITY OF LONG TERM FROZEN CAT BRAIN IN VITRO" (Nature Oct 15th) The fate of this important research breakthrough of Prof. Suda's has been followed and reported in our newsletter for some 15 months. Its significance is that it gives scientific evidence that a whole brain can survive deep-freeze temperatures for over one half year and apparently indicates that the same can eventually be done for the human brain. Also see a "sensational" popular report below in number 4.
3. THE ARTICLE "DIVERSITY" IN THE JOURNAL "SCIENCE". JOHN PLATT ENCOURAGES DIVERSITY (SUCH AS THE FREEZING ATTEMPT APPARENTLY) AND COULD BE READ WITH BENEFIT BY ALL FOR ITS FAR-RANGING SUGGESTIONS. In a bold thoughtful, immensely creative lecture, biophysicist John Platt, celebrates diversity. Some quotes and outline comments below give the barest hint of that celebration.

"Progress would be faster and life would be more interesting if we pursued more diverse goals, goals of excellence to be sure, but goals of our own, different from what everybody else is pursuing--and if we tolerated and encouraged the same sort of individuality in others."

Many if not most of the fundamental advances in the fields of astronomy, medicine, and philosophy (to mention but three) have been initiated from outside their respective fields. "There are probably many other areas which I have not mentioned where the narrowness of training by the professionals is evidently an actual handicap to progress in the field."

"Scientists are not really innovators, and neither are industrial companies and government agencies and their research-and-development teams. They all shrink, like other men, from unheard-of projects for which there is no precedent, even obvious and important projects because they are afraid they will be laughed at or cut off from support."

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"DIVERSITY" IN "SCIENCE" continued

"As psychologists once backed away from the study of sleep (until recognition by authorities made it respectable), so biologists and doctors today back away from the study of regeneration and rejuvenation, although the central importance of these studies to human welfare is obvious. Such studies sound too much like science fiction--as though every development today did not!--and they have often been given a bad name by sensational reports like those of the "monkey gland" studies of the 1920's. But lower animals can regenerate parts of their bodies. Lobsters can regenerate claws; and newts, which are vertebrates much farther up the scale, can still regenerate eyes and optic nerves. It would seem that the power to do this is not lost in higher animals but is only "turned off" or economized somehow, since we still have the full information for our embryological development preserved in every cell of our adult bodies. A concentrated study of "tissue inducers" or of the restoration of embryonic biochemistry might permit a useful measure of regeneration, and the discovery of how to do it might take only a fraction of the biologist-years now being spent on minor studies of DNA. A man who had lost a finger or a hand might find it very useful to grow, not merely skin over the stump, but bones and muscles, even if it took just as long as growing the original finger or hand. But we will never know whether it can be done until a few dozen scientists get to work on it..

"...Some of the processes of aging that cause us to run down may be programmed innately into our genetic apparatus, while others may be due simply to the breakdown of certain repair mechanisms. Could these genetic programs be reversed or delayed? We do not know, but there are many avenues to try, and it seems to me quite possible that the work of a few hundred biologists in this important area might do more for the daily happiness of hundreds of millions of people than even a successful solution of the terrible problems of cancer and heart disease; yet the number of researchers in this field is probably not 1 percent of the number in the cancer field. We are driven by the fear of death, not by an interest in living more abundantly. Who would have the courage and love of humanity to try to organize an American Rejuvenation Society as rich as the American Cancer Society for the support of research? The jokesters would have a field day. And so the important thing does not get done.

"There are other possible experiments that use the same biological principles and that would be extremely interesting to try, even though they are still more "far out." Since the nucleus of every adult cell in the body contains all the genetic information necessary for copying the complete adult, could we not take out some of these nuclei with a micropipette and insert one of them in a fertilized egg cell in place of the egg's own nucleus, letting the egg cell then develop and grow up into an identical twin of the original adult?"

And so continues Platt's support for innovation and diversity for some 7 1/2 pages in the December 2nd 1966 issue of Science. He is creative and stimulating in his ideas to say the least. He even gives one a chance to diverge with him. For example, considering the above, why shouldn't we be "driven by the fear of death"? Wouldn't death obviously limit "living more abundantly"? Perhaps he wished to simply orient us toward doing something positive rather than to dwell in fear?

4. "A JAPANESE SCIENTIST HAS TAKEN A FANTASTIC STRIDE TOWARD KEEPING THE HUMAN BRAIN ALIVE INDEFINITELY." So begins an article by Taro Suzuki on Suda's cat brain experiment in the National Enquirer,

--continued--

predated December 25, 1966. The Enquirer conveys the impression that its aim is to sell newspapers via the fascination of sex, eternal life, and violent death. Nevertheless, credit is due for interesting detailed pictures, including a photo of Suda, headlines covering one third of the front page to inform the public, and an informative interview with Suda. If Suda is quoted accurately his comments indicate his experiments are pointedly concerned with the extension of individual human life. His statements indicate his experiments should help lead to the following:

1. Facilitates study of the brain under more ideal conditions.
2. Provides a bloodless field and extra time for brain surgery.
3. Provides the experimental basis for eventually freezing the whole body.
4. Indicates the brain can survive long run storage.
5. Could provide a vacation from active life if a person became mentally exhausted. Repair, then return to life.
6. Should help provide life that lasts indefinitely.

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NEWS FROM ALL POINTS

Near mid-November Bob Ettinger taped a broadcast for the Louis Lomax TV program in Los Angeles. It was released beginning November 20th. He had the help of others active in the Los Angeles area. Bob Nelson, Dick Jones, and Helen Kline are reported to be in the process of forming another freezing society in that area. Russ Stanley and Bob Johnson are overworked with LES as it is without looking for more and so remain Los Angeles LES coordinators. (Anyone in that area who could give them either moral support or help with meetings, please give them a call.)

In Hollywood, Sabrina Productions announced plans for a new TV series entitled BACK TO LIFE. It is said to be "based on an original idea by Francis Ravel" and stimulated by experiments in suspended animation. When the hero of the program returns to life, "he encounters the changes and innovations of a world he has virtually departed generations before."

Our thanks go to two other Californians also: to Helen Siver for her usual supply of excellent research information, and to Marie Phelps-Sweet for initiating the Medic Alert opportunity for LES members.

In New York, Michael Hart, our LES coordinator, gave a talk on Life Extension at Hofstra University, December 1st. The Hofstra Chronicle carried a fine advance note of the meeting including a cartoon joking that the men might avoid the draft by freezing. Ninety attended.

In Harrisburg our new LES coordinators, Doug Jampicki and Tom Longshaw, informed many people of LES's existence by distributing five to six hundred pieces of literature on the possibilities through freezing.

In England, LES coordinator Gerald Evans of Swansea was interviewed and given a full page write-up in the University of Swansea Crefft, Nov. 3rd. Under the headline 'And Death shall have no Dominion' the Crefft Features Staff discussed with Mr. Evans research, future possibilities, future problems, society organization in Europe, and religious beliefs in respect to freezing.

We forgot to mention last time that Time, Sept 30th, ran an article on the "Freeze-Wait-Reanimate" idea. They quoted one woman as saying, "With bad luck, I'll stay simply dead. With good luck, I may live again. It's worth trying." Theologian Sittler felt it would destroy man as a "historical being." One wonders if it isn't more likely that three or four extra centuries for a person would add historical understanding and perspective and improve one as a historical being?

LETTER FROM MICHAEL HART WITH FURTHER NEWS AND RESOLUTIONS PASSED

Dear Ev, ...

The bigger news, however, concerns last night's LES meeting. Thirty people came to Professor Feinberg's to hear a very interesting address by Dr. Gouras on the medical aspects of freezing. ...

The following resolutions were passed:

1) The New York chapter strongly recommends that active steps be taken by National Headquarters to secure facilities for storage of frozen persons. It is recommended that the foregoing project be made a first priority on funds in the LES treasury. It is further suggested that the same location be made available for experiments in freezing techniques.

2) The New York Chapter recommends that all members in the New York area be strongly encouraged to execute appropriate wills, affidavits and /or trust agreements, and to obtain adequate insurance to cover the cost of freezing and storage.

3) The New York chapter recommends that its chairman acquire information as to the practical steps actually taken by members in the area with respect to : obtaining insurance; setting aside funds; execution of wills, affidavits, and trust agreements; contacting physicians; and advising relatives of the member's intentions.

...I would like to suggest that you consider printing in a coming newsletter a questionnaire concerning these points and suggest that members mail it back to you. In that way statistics could be acquired for the general membership, instead of merely for the New York membership.

Best regards, /Michael Hart

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**  NEXT LES NEW YORK CHAPTER GENERAL MEETING JAN. 21ST  **
**  At the home of Harry and Hazel Roth, 45 West 132 St.  **
**  New York, N.Y., Saturday evening January 21, 1967,  **
**  at 8pm. Please phone (WA 6-2135) before coming,      **
**  unless you have already let them know, and perhaps    **
**  ask if they need help with anything, such as, the     **
**  chairs, cookies, liquid nitrogen --or whatever.      **
**  *****                                              **
**  NEXT WASHINGTON LES MEETING, TUESDAY, JANUARY 17TH    **
**  The next meeting will be held, as usual, on the      **
**  third Tuesday of the month at the Georgetown         **
**  Public Library, upstairs, 7:30pm. Welcome to all.    **
**  *****                                              **
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LES MEMBERS AND SUBSCRIBERS, AND THEIR NUMBER COMPARED TO OTHER GROUPS

LES had had over 775 members and subscribers join or subscribe. However, many are now delinquent or have dropped, so our real number probably lies between 675 and 725. Cryonics of New York is reported to have about 45. Other organizations have less or are just organizing.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life Member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

FEEDBACK FROM HEADQUARTERS ON THE NEW YORK RESOLUTIONS: "Amen! We are in full accord. Thanks for the concern, the push, and the support."

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper. Or try (301)277-0246
Akron, Ohio	(216)535-0105	Neil Shapiro
Alamo(East S.F.Bay)...	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore		Ted Brown.
Berkeley	(415)525-7114	Art Quaipe
Boston		Ed Randall
Calgary		Gordon Petts.
Camp Hill(Harrisburg)...	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jansen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI 6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Morgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also (205)588-3101
Hull, England	48114 Hull	Alan Worsley
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Manchester, Eng.	CEN 5601/2	Brian Gilbert
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc
New York City	(212)939-1364	Michael Hart
Paris	OPE 98-26	Andre Chareyre
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Phelps-Sweet, Organizing Advisor
Simi, Calif.	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski

FOR FURTHER INFORMATION WRITE TO:

(This is our mailing address only)

LIFE EXTENSION SOCIETY

2011 "N" Street N.W.

Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

-over 200 million-

Number of deaths
since freezing
has been suggested.

(two)

Number
frozen.

A SECOND PERSON HAS NOW BEEN FROZEN IN CALIFORNIA. REVIVAL A GOAL

A second person has been frozen at last! This hoped for cryochrononaut, for whom anonymity is desired, died of cancer in a nursing home in the Los Angeles area Thursday, January 12. It is reported that shortly after clinical death, this elderly man was cooled with ice while artificial respiration and external heart massage were applied by Dr. B. Renault Able, an LES member and scientific adviser to the Cryonics Society of California.

Subsequently a solution of DMSO and glycerol, both cryoprotective agents that act as buffers within the cells to allow freezing with minimum damage, were to be substituted for the deceased person's blood. The plans are to store the man in a plastic container within a freezer for the time being. At a later date liquid nitrogen will be used as a refrigerant.

This second achievement represents a number of advances since the first person, an elderly woman (also from California) was transported to Phoenix, Arizona, frozen, and placed in a liquid nitrogen container in April 1966.

1. The time between death and beginning the cooling has been drastically reduced. This means there may be some hope for reanimation in the distant future when reanimation techniques have been perfected and a cure for cancer has been found.

-next page-

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SECOND PERSON FROZEN continued

2. This reduction in time was made possible by the person in danger of death making his wishes known, in locating a suitable place and a willing doctor. A nursing home was located in this instance. Nursing homes, the home of a doctor or nurse, or the patient's home are the most likely places for these pioneering freezings. In these homes only one or a few people need to be convinced of the worth and rationality of freezing. Whereas, in a large hospital the chain of acceptance is a long one.

"Technical difficulties" were reported so it is not yet known how much of a time lag there was between cooling, then perfusion and the final freezing. However, this second freezing was an incomparable improvement over the first. From what we understand the first person was not actually frozen until days or weeks after death. What the time period was between death of the person and placing him in the freezer, in this most recent freezing, will be reported later in the newsletter or in future issues.

3. Another advance is that this second person is reported to have been perfused with cryoprotective agents whereas the first person was embalmed. Is there a difference? Yes, perfusion at its best in a good hospital or clinic under careful scientific control can be quite a complicated procedure in comparison to embalming. The aim of perfusion is to extend that process to man which has been most successful in freezing, storing and reanimating micro-organisms, tissue and organs. Embalming fluids would be quite destructive to tissue in comparison to the protective action of DMSO and glycerol.

NEWSPAPERS REPORT THE LOS ANGELES FREEZING: The newspaper reports in general gave an unemotional report of the freezing, but with some misunderstandings and exaggerations. The Los Angeles Herald Examiner, on the front page, stated "an elderly man who died last night of cancer was placed in a state of deep freeze moments after death.." The Washington Post carried two additional statements of impossibilities: "The body of the man was quick-frozen 'virtually instantaneously' with his death Thursday, according to Robert Nelson.." and "He said the body was quick-frozen and a mechanical heart machine was attached to the man's heart."

Obviously it wouldn't make any sense to quick-freeze a person and then attach a heart machine. Second, it is impossible by present means to quick-freeze a person. Experiments indicate that even the attempt to quick-freeze with present methods often leads to the rupture of organs. One needs to be quick in beginning the cooling and perfusion processes once the person has died, but the freezing should be rather slow.

In spite of technical difficulties and possible exaggerations the Los Angeles freezing does appear to be a great step forward. Bob Nelson, LES member and now forming the Cryonics Society of California, is to be congratulated for his organizing ability and his willingness to face the press. Dr. Able is to be congratulated for his courage in taking part as well as the nursing home. Many others are to be congratulated for their help though they may not have obtained or desired the publicity. The "patient", the cryonaut, who is reported to have volunteered is to be congratulated for his courage and foresight. And, also for his family who respected his rights and desires as an individual. With extreme good fortune we might be able to present our commendations in the distant future to this new type of pioneer Westerner who we hope is now in reasonably good cryogenic suspension.

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MANCHESTER GUARDIAN DISCUSSES GERALD EVANS AND FREEZE-WAIT-REANIMATE

With the headline "Freeze--Wait--Reanimate" Geoffrey Moorhouse writing for the prestigious British weekly, the Manchester Guardian, interviews Gerald Evans our LES coordinator for Swansea. In a very casual good natured way Mr. Moorhouse discusses the main ideas with a flourish and then some of the possibilities for Britain.

"Unlike a lot of visionaries he can also see obstacles in his path. He would like to hope that the Life Extension Society will become an extension of the National Health Service, with bunkers up and down the country full of encapsulated people (they can hardly, in this condition, be called corpses) awaiting reanimation. And if this is not practicable there are always the underpopulated spaces of the Arctic and Antarctic, heaven-sent, you might almost say for this very purpose."

"He can imagine the day when the cryobiologists will not only be able to reanimate but rejuvenate as well; they will be able to give us back not only life but what Mr. Evans calls "the fire of 30."

Readers of our newsletter will remember Gerald Evans as a frequent contributor including a long write-up in our November issue of Prof. Suda's deep freeze cat brain experiments. His work is with the GPO in Britain, but his avocation has always been with new ideas, writing about them in science fiction and science journals and now acting upon them. A letter of his that follows later in this newsletter tells of some of the results of the Guardian story including a television program in London.

CONSUMER REPORTS BEGINS SERIES OF ARTICLES ON "HOW TO BUY LIFE INSURANCE"

LES thus far has been uncertain as to the best type of insurance to recommend for a person contemplating freezing. The market is complicated, information is imperfect and conflicting, and often it seems difficult to ascertain what you get for what you initially purchase. Beginning with the January 1967 issue Consumer Reports starts a long awaited three part series on how to buy life insurance. It is obtained from large news-stands or from: Consumers Union, Mt. Vernon, N.Y. 10550.

There is little dispute that under most circumstances some type of insurance is the best solution to freezing expenses. Any kind may do if there is enough of it, five but preferably ten thousand, and if it is carefully stipulated for freezing.

Which kind of insurance: term, decreasing term, or insurance plus savings, is much debated as to which is best for normal freezing purposes. If we gather correctly, the authorities who write on this subject from outside the insurance industry seem to suggest term and declining term. Those inside the industry seem to favor insurance plus savings types of policies. The conclusions and opinions of our readers would be much appreciated. See also a letter on this subject further on in this newsletter.

BEHIND THE SCENES REPORT OF LOS ANGELES FREEZING DESCRIBED AS HYSTERICAL AT TIMES

Another LES member and usually reliable source of information reports the second freezing and post freezing activities approximately as follows.

First, Robert Prehoda and Dr. Bruncl are certainly to be congratulated for arranging and seeing the perfusion and freezing through. In fact if it were not for Prehoda the freezing might not, probably would not, have taken place, according to our observer.

This is almost dumbfounding for Robert Prehoda presented the view in the August-September 1966 issue of this newsletter that to "freeze the dying or dead at the present time (is) totally unfeasible...When an organ as large as a human brain is perfused with DMSO and frozen to cryogenic temperatures, most of the cells are damaged beyond any conceptual means of future repair and restoration to original function."

Everyone is delighted that the freezing movement has been pushed a notch forward. It is a great service for those to follow. But if our facts are wrong, perhaps we could request of Bob Prehoda a note, article, or letter for our readers as to what actually happened as he saw it?

But to continue our freezing and post freezing story our observer switches us back to the ranch, or in this instance back to Prehoda's garage. It would seem that after the cooling and partial perfusion and perhaps while the body of this elderly gentleman was continuing its journey downward toward the cryogenic state, it was transported away from the nursing home and into Prehoda's garage. Eventually Prehoda's wife found out about the body in the stationwagon in the garage and our reporter indicates that she got pretty hysterical. As we understand it the windows of the stationwagon were soaped so no one could see in and the wagon was moved up the hill.

Our observer gave up describing the scene in detail at that point saying it could only be described as hysterical and chaotic. He said that if he had a camera it would have made the movie of the year.

During this same period LES and Cryonics members flew into and descended upon Los Angeles attempting to get extra publicity and adding to the confusion. For all the confusion and "technical difficulties" the story has two happy endings. First and most important our frozen pioneer is reported to have been successfully spirited out of the state of California and into Ed Hope's Cryo-Care storage center in Phoenix where presumably he will be placed in a liquid nitrogen environment for his much longer journey through time. The second happy ending is that the activists and survivors are now being interviewed by Life Magazine.

The name of this second cryonaut is reported to be Prof. James Bedford. He is said to be 73 years of age and of Glendale, California.

NEW MOVIE OUT WITH THE TITLE "FROZEN ALIVE"

Ronald Poland notified us (see a short letter that follows) that "Frozen Alive" has just been released. Locally half a dozen theatres or more were showing it last week. (One might say that the idea seems to pretty well be in the air.) Everyone we know has been too busy to see it. Do any of our readers have a report after viewing?

JOHN FLYNN ON THE DAVID SUSSKIND SHOW. The dates the show may be released in various parts of the globe will differ. However, if you can see this TV show it will be on the freezing idea. John Flynn is head of Bio-Preservation formed to provide equipment for cryogenic storage.

Dear Mr. Cooper:

LES MAY NOT BE A MAD IDEA AFTER ALL

Received your letter, with enclosed freeze-cards and will sample. Thank you so much. Indeed I do not think LES is a "mad" idea.....in fact it's one of the few things in this confusing world that makes sense. I'm amazed the whole world hasn't responded overwhelmingly to it. The whole thing fits so perfectly into a plan, with space travel becoming a thing of reality and science leaping ahead at unbelievable speed. Yet, when I describe LES to some people, I know, by the way they look at me, exactly how Columbus must have felt when he was telling friends the world was round. The biggest argument I run into is that even should a person be reanimated successfully, the world would be too crowded. If you carry the planet exploration experiments to a logical conclusion, I can't help but think there'll be many other habitable places.. ..

Best wishes,

Mrs. W.D. Wyatt, Pittsburgh, Pa.

Dear Ev,

THE IMPORTANT THING IS TO ACT NOW!

I have a few comments on Mr. Karow's letter in the Oct. newsletter. Disregarding the question of probabilities, which I think Ettinger has dealt with fairly satisfactorily before, a number of his points do not hold water. A few simple arithmetical calculation on the level of elementary school geometry ought to show that even if practically everybody is frozen there will be lots of room in say Antarctica for a long time to come. When did people last rely only on friends and relatives to do things for them? And as for expenses, firstly the coming economy will be at least a neo-capitalism with extensive welfare-state features; indeed in many countries freezing will be a public service as soon as it is adopted. And probably it will have many features analogous to socialism or communism, so the upkeep will be a community effort. But until then, for as long as necessary it is easy to beat the expenses. Simply set aside some money to be invested. The profits will serve to pay the upkeep. As for whether the people of the future will want to reanimate us if they can, whoever said this thing would not be chancy? (It also seems an odd argument for investing in cryobiological research).

But let's get down to the real nitty gritty. LES is not a branch of the AAAS or a government grant agency. We are not out for what will advance research primarily but to get personally the best chance of reanimation we can. Obviously we need to support appropriate research in order to achieve this, so long as no one else is. However, even if Mr. Karow could convince me that I have absolutely no chance at present and the only thing that could be done was more research, I would not start sending him money. I am not and can not afford to be a patron of cryobiology; what's in it for me? If we were a government agency it would be right for us to ask how we can spend our money most effectively to get the benefits for the people as a whole and through time, but we are a bunch trying to work together for the most selfish of reasons (and altruistic ones as well, certainly). Let's sponsor research and try to drum up support for it - but let's not forget what we are in this for!

I am sympathetic with Cryonics Society's attitude of commitment and action now, and would join them if I could afford it. It is worthwhile just discussing all the issues, but I can do that anyway; the important thing is to act now. Any one of us can die at any time, and we want a chance!

Yours

Tim Slater, Shimer College, Illinois

Dear Ev,

BRITISH SCIENTIFIC GLOOM, OR FORWARD WITH CONFIDENCE?

Now for the news. The Guardian Newspaper publicity led to the best television plug for LES so far in this country. I appeared in the FROST PROGRAMME with David Frost and Dr. D.E.Pegg, a specialist on low temperature biology, on 12th., Jan 1967. This was a London only transmission, but one of the programme editors claimed that it reached an audience of over 5 million.

I had some interesting conversations in the Director's office before the show, and nearly everyone I spoke to, when asked if they had heard about LES, replied, "who hasn't?" ...

One of the most sensational results that came out of the programme, was when Frost asked the live audience of some two hundred people to indicate how many of them would follow me into freezing after death with the hope of possible reanimation some day. To my amazement twelve people put up their hands. You can imagine how calm I was to be able to count the support. I'm learning. So 6% are with us! It sounds promising.

Dr. Pegg, who was on that Twenty Four Hour programme of the B.B.C. last year, put in some deglamourising material against me. He said that our claim of hamsters being frozen at -5 degrees C was wrong -- it was -1 degree C. He even played down Suda's success with the cats brains.

I think I upheld our flag however- I said that quite a few scientists believed that Freeze-Wait-Reanimate was possible and disagreed with Dr. Peggs' pessimism. Dr. Pegg has asked me to provide him with the names of these scientists and he said that he would write to each one personally.

Earlier in the show, I made the following points which I think helped to tarnish Pegg's merchandise of gloom and death. I said that Dr. Audrey Smith had in a negative way by writing in the Penguin Science Review "that she did not think biological immortality would be available through deep freezing during our life times" implied that it was however possible, and that coming from a British scientist was hopeful indeed. I reminded the TV audience of traditional British scientific gloom, the worst instance of all being the statement by the Astronomer Royal back in 1958, when he was asked what he thought about space travel he replied "it was all bilge!"

We had quite a party after the show. Rediffusion Television are fine to their guests. They gave me a wonderful welcome. The intellectual atmosphere generated by other guests removed all inhibitions. I felt that at last I was in the company of "free minds". I felt too, for the first time, that some people really want LES to succeed, and are tired of intellectual timidity and religious childishness. One of the guests was Stirling Moss, the world famous racing driver, and although he thought my views were wild, he said that I was motivated by the same force which moved him. A force, which in his case made him break speed records and cross new frontiers in the kingdom of speed, but in my case, drove me on to intellectual adventuring. We had quite a discussion on the purposes of Evolution. Very fine fellow -- Moss.

Dr. Pegg was quite friendly to me off the air, and I showed him NATURE'S article about Suda's experiment, and asked him if he questioned the accuracy. He said that he had found some errors in the past. You can't win can you? But whether they like it or not - Prof. Suda has shaken Western science and the LES can go forward with confidence.

Sincerely,

Gerald Evans, Swansea, Great Britain

Dear Mr. Cooper:

AN ORDINARY OR STRAIGHT LIFE POLICY ADVOCATED

You mentioned that your main difficulty is not knowing what you are getting for what (payment). As an almost-member of LES (at any rate, very much enthralled with the theory behind it) and as a life insurance agent, I would like to put my "two cents" in. Since the sole purpose of the insurance is to cover the cost of freezing and cryogenic storage, what we need is a basic policy which will pay \$10,000 at clinical death. Therefore, we should not be concerned with cash values, savings programs, etc. We need a straight life insurance policy, with premiums as low as possible, but with the guarantee that the money will be there when the time comes.

Term insurance is cheap, but I don't think it can serve the purpose in all cases. It cannot be renewed beyond a certain age, so if an individual lives to be 80 years old and wants to be frozen, his insurance will no longer be effective and he will have put all that money into nothing. An ordinary life policy (we sent you a sample earlier) will do the trick perfectly, in my opinion. Proceeds are payable at any age (even 150), premiums aren't too high, and there is a cash value there in case of emergencies. And, of course, we can always make exceptions in individual cases.

That's one man's opinion. What's yours?

Best regards,
Miss Carolynn Utara
Employers' Life Insur.
Baltimore, Md. 21203

Ev,

"FROZEN ALIVE"

Progress is on the move. You can now buy a jar of freeze-dried coffee. It's fresh coffee quick frozen, and then the ice is vacuumed away leaving dried instant coffee that tastes like fresh perked when poured in a cup. Maybe that is our answer? Quick freeze someone, vacuum away the ice crystals and pour him in a cup.

Now on the serious side! I thought you would like to know that Hollywood has just released a motion picture titled "Frozen Alive" that deals with people being frozen and rejuvenated in the future. It stars Mark Stevens and is released as an independent picture.

Ronald Poland
Norwalk, Ohio

Dear LES,

THE EDITOR'S FAVORITE

I have been an interested and hopeful member of LES since March, 1966, and have enjoyed receiving your newsletters monthly and have read each one voraciously. I assume my membership will run out in March, so I am sending you the fee for student membership for the next year.

I am getting married in two weeks, so I would like you to change my name and address on your records. I hope I am giving you enough notice for you to send next month's newsletter there. I would hate to miss an issue. Even my husband-to-be is becoming interested in LES; he is working on his Ph.D. in Electrical Engineering here at Purdue, so maybe he will someday make a discovery useful to LES. I hope so!

Sincerely,
Marilyn Von Benken
W. Lafayette, Indiana

* *
GOOD NEWS FROM NEW YORK. Michael Hart, LES Coordinator for New York City, and his wife Sherry announced the birth of their son Robert Laurence.

LATEST REPORTS: A letter from a newly interested person from Paris writes in part, "I read in a French newspaper l'Aurore that you have succeeded with an experiment in Los Angeles."

Continuing publicity is bringing forth objections from more conservative elements of the scientific and medical communities. This newsletter would welcome information on these objections, your reactions, which objections are thought to be valid, which ones are not and why.

Certainly Life Magazine and probably the New York Times will carry a story of the freezing movement very shortly.

LETTER FROM BOB ETTINGER

MILD SELF CONGRATULATIONS & OUR MISTAKES

Dear Ev--

As you know, the first reported freezing of a human at death under controlled conditions occurred Jan. 12 in Los Angeles. Tremendous credit is due to the people on the spot--especially Bob Nelson of Cryonics of California and LES, who coordinated the effort; Dr. B. Renault Able, an Inglewood physician; Dr. Dante Brunol, physician and biophysicist; and Robert W. Prehoda, author and cryobiological researcher; these four performed the physical procedures. Of course the help of others was also involved, including Russ Stanley of LES. The groundwork-laying efforts of many others were also indispensable, including yourself; your untiring perseverance has been, and continues to be, essential.

The sensitivity of the family to publicity forces us to keep many details, including all personal information, confidential. However, a report on the details of the physical procedure used is being prepared, I understand, by Dr. Brunol and Mr. Prehoda, and should be very helpful in informing physicians. In a general way, it followed the suggestions I made in the May, 1965 issue of Esquire. Dr. Able, the attending physician, was present at death, and at once applied artificial respiration and external heart massage to maintain circulation of oxygenated blood while the body was being cooled with ice. Later, Dr. Brunol, Mr. Prehoda and Mr. Nelson perfused the patient with DMSO solution, and he was then frozen with dry ice, later to be transferred to liquid nitrogen in one of Cryo-Care's storage units. (Heparin was also used immediately after death to avoid coagulation of the blood.)

Readers of the LES newsletter will probably be surprised to know that Mr. Prehoda provided such important help, in view of his expressed pessimism. He remains more pessimistic than most of us, and in fact says that at this date he still would not choose freezing for his own family, but it is greatly to his credit that he recognizes the possible validity of other viewpoints and is willing to help the optimists in practice. His chief concern remains to stimulate greater support for research, and we all agree on the importance of this.

We have passed an important milestone, but this is only the beginning of the journey nevertheless. We are still desperately short of equipment and organization. (For example, I had to ship our Westinghouse Iron Heart to Los Angeles, and in general there was a large element of luck in the fact that clinical death occurred under conditions so favorable.) How much momentum this incident will gain us is by no means certain. Perhaps we can be excused a little mild self-congratulation, but it is primarily an occasion for a sober look at our mistakes and shortcomings.

Bob Ettinger

Oak Park, Michigan

THE NEXT WASHINGTON AREA LES MEETING will be held Feb. 20, 1967, 7:30pm at the Georgetown Library. We urge all members or interested persons in the area to attend so that this year we can continue to move ahead.

STORAGE FACILITIES: In between newsletters and mountains of mail we try to obtain suitable land, laboratory, and cryostorage facilities. There is little problem in finding land, but zoning is especially slow. We don't expect it will take forever, however. Any suggestions our readers may have for the lab and cryostorage would be welcomed.

CRYOBIOLOGICAL RESEARCH IN THE USSR: The Soviet Nedelya (Week) reports Nikolai Sirotinin as saying that humans may be successfully frozen for long journeys in space within the next 50 years. They will have to be frozen and revived many times here on earth, of course, before being sent on long rocket journeys. Animal experiments are now in progress.

NEW COORDINATORS: Some changes and additions to our listing of coordinators came too late to include on page 10.

Mrs. Margaret Wyatt Pittsburgh, Pennsylvania 412 563-4638
Henry Donnat Mexico City, Mexico 28-86-73

Mr. Donnat originally our coordinator in Costa Rica, now in Mexico City, sends good wishes to all in LES that we have "a larger understanding in the public and a broader development of the basic idea that tomorrow will be better than today and may even include immortality."

NEWSLETTERS AVAILABLE: The World Future Society is forming. They wish to better understand and anticipate the future. They offer a free copy of their newsletter, The Futurist, to anyone writing to P.O. Box 19285, 20th Street Station, Washington, D.C. 20036. In their next issue they have "Forecasts of the Next 100 Years" and many other articles. Newsletter including membership costs \$5 per year.

The Cryonics Society of New York, Inc. is offering a free copy of their newsletter to anyone writing in. Their address is 306 Washington Avenue, Brooklyn, N.Y. Newsletter costs \$5 and membership higher.

ART QUAIFFE OF BERKELEY (MATHEMATICAL LOGIC) BECOMES LIFE MEMBER. And what could be more logical! Our thanks for that and at the same time our regrets to hear that Simba (when Simba was a young lion we heard he weighed 210 pounds) failed to survive the anaesthetic in a declawing operation. Art Quaife, an LES Adviser also, informs us about his Life Membership: "This means that when I come out of the freezer in 2067, I expect to have an LES newsletter waiting for me!"

LES AND OTHER ORGANIZATIONS: Since various organizations have and will no doubt appear, all having as their purposes cryogenic storage of humans and other scientific and educational work in this area, LES suggests that no officer or coordinator of LES should also be an officer of another similar organization. Overlapping membership is no problem, of course. It is felt that the best interests of the public and the organizations are served by truly independent organizations. We will try to list, however, from time to time, where help can be found, no matter where. LES now has well over 700 members, Cryonics of NY, 45 or more. Others less.

A LOCAL MONTHLY MEETING OF LES IN WASHINGTON was held January 17, at the Georgetown Library. We were fortunate to have two medical doctors (primarily medical research scientists) who are members attend. Discussion centered on the need for storage and for experimentation. Mrs. Peg Howard who is helping locate facilities also volunteered to be a co-coordinator for the Washington area.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

III(31)10

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Freeze-Wait-Reanimate

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES WASHINGTON	(202)723-5397	Ev Cooper. Or try (301)277-0246
Akron, Ohio	(216)535-0105	Neil Shapiro
Alamo(East S.F.Bay)...	(415)837-6017	Mrs Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston		Ed Randall
Calgary		Gordon Petts
Camp Hill(Harrisburg)...	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger.Also (313)LI 6-4012.
France		Marc COLLET,54-Rosieres-Aux-Salines.
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin,Also(205)588-3101.
Hull, England	48114 Hull	Alan Worsley.
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles.	(213)629-2702	Russ Stanley & Bob Johnson
Manchester, Engl.	CEN 5601/2	Brian Gilbert
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York City	(212)939-1364	Michael Hart
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Phelps-Sweet,Organizing Adviser
Simi, Calif.	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
St.Michel les Bruges .	050/133.39	Dr. Carole Line Van-Gastel,(M.D.)
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski

FOR FURTHER INFORMATION WRITE TO:

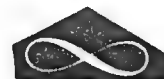
(This is our mailing address only)

LIFE EXTENSION SOCIETY

2011 "N" Street N.W.

Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-

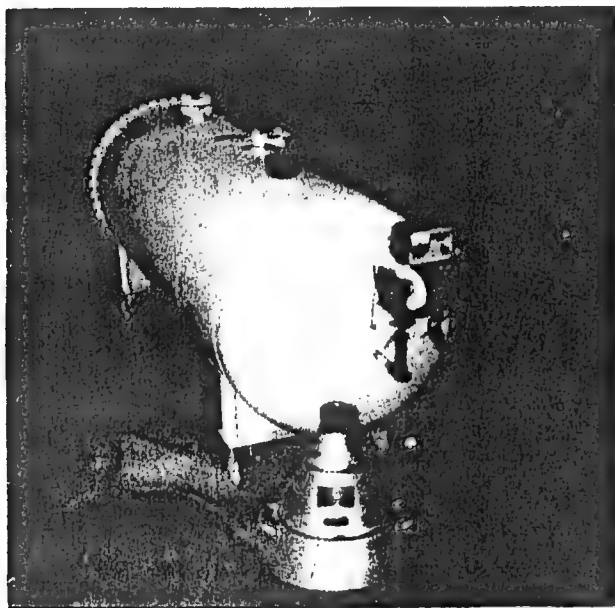


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Types of cryogenic storage containers. Top type used for Dr. Bedford. See discussion following.

FANTASTIC MISSION TO REVOKE DEATH

A professor's body is frozen on the long-shot gamble that he will be brought back to life.

The words above were used by Life Magazine to headline their six page description and photo display of the freezing of Dr. James Bedford, a Glendale, California professor of psychology. Dr. Bedford died on January 12th. Much of the mass media around the world made some note of this dramatic advance in the attempt to preserve humans for a possible reanimation in the more distant future.

The first report by Life was "The cold way to new life" by Loudon Wainwright, a short account and tinged with pessimism, published Jan. 27th. The February 3rd feature was extensive, oriented toward the future and balanced with a one page report of the nonfuneral by Bob Ettinger. However, the presses were stopped at the time of the Apollo disaster and the burning of the astronauts was substituted for the freezing of the professor. There may have been as many as a million copies of the

-next page-

freezing story circulated primarily in the Mid-West and South.

For those of you who didn't have a chance to see this abbreviated Life issue, it contained three large pictures of the cryogenic container, or cryo-capsule, in varying stages of use. The top photo on our FWR cover is of one of these containers manufactured by Ed Hope's Cryo-Care Equipment Corp. Phoenix, Arizona. Other photos are those of Ed Hope, his assistants, Bob Ettinger, Dr. Bedford, Dr. Dante Brunol, Robert Nelson, the latter two re-enacting the freezing on a dummy. One page is devoted to LES and LES members Prof. E. Wesley Walton, his wife, Mrs. Judie Walton, their two children, Ernest Fiore, his wife, Mrs. Margaret Fiore, and five of their seven children. There are photographs also of Mr. Fiore's will, an LES freeze-card, and a Medic Alert bracelet used to instruct freezing in the event of death.

Prof. Walton is our LES Corresponding Secretary and from the South where it takes more courage to advocate any views that vary from the norm one iota. It is especially welcome to see Ernest Fiore receive publicity for he has had one heart attack and is in need of additional LES and community support. Mr. Fiore lives at East Avenue and Wheat Road in Vineland, New Jersey. To whatever extent LES members and friends could contact Mr. Fiore, especially from southern New Jersey, Philadelphia and Wilmington, to prepare help in the event of an emergency, such aid would be invaluable.

Bob Ettinger informs us in his Life article that Dr. Bedford first wrote to him on June 28th after reading Ettinger's book "The Prospect of Immortality." Dr. Bedford volunteered for freezing as he had cancer which was spreading. Gradually support was formed and arrangements were made wherever possible. Robert Nelson, originally active in LES until Cryonics of California was recently formed, acted as coordinator obtaining the assistance of Dr. Able, Dr. Brunol and Robert Prehoda.

Dr. Bedford had a physician; however, that doctor refused to have anything to do with the proposed freezing. As a result Dr. Able removed Bedford from the hospital to a nursing home. A mortician said he would provide help also, but later withdrew from his agreement.

Dr. Able was in attendance when Bedford died and injected heparin immediately to prevent coagulation. Artificial respiration and external heart massage were instituted while ice was used to accelerate cooling. According to some reports the nursing home had not been informed of the intentions to freeze Dr. Bedford. However, they did not stand in the way once the procedure was initiated. The nursing home is the Glendale home of Mr. and Mrs. Raymond Vest, both nurses. They took in Dr. Bedford at the request of the family who had been friends and neighbors for years. After Dr. Bedford died they were informed of his wishes. Mrs. Vest is reported by the Los Angeles Times to have said, "It took us by surprise, but once told of the experiment we helped pack the ice."

Later, after the body had been cooled with ice, Brunol, Nelson, and Prehoda began perfusion with a solution of DMSO. The perfusion and further cooling with dry ice took many hours, perhaps six or longer to complete. Later, Dr. Bedford, now in some degree of suspended animation and disrepair, was transported to Cryo-Care in Phoenix where he now rests in a liquid nitrogen environment.

Remarkable as it was that the freezing was carried through, it is unlikely that anyone will claim it was perfect. Ideally a hospital or clinic is desired where the operation can proceed under scientifically

controlled conditions with a heart-lung machine. Cooling is much more efficiently done by the introduction of a cold perfusate through the vascular system. Expertly done this system probably does away with the need for artificial respiration and external heart massage except for the few minutes needed to connect into the body's blood vessel system. Some heart-lung machines have been made portable which will be a boon under emergency conditions. A heart-lung machine, depending on its complexity, has the functions of oxygenating, regulating temperature, mixing, and pumping the blood or artificial solution (perfusate) to be circulated through the body. Whatever may or may not be the ideal method, emergency procedures will always be needed, so we look forward to more detailed accounts of Dr. Bedford's perfusion and suggestions from anyone for improvements. Dr. Brunol has indicated that he will help with any freezing if his expenses are paid.

MASS MEDIA OVER MOST OF OUR PLANET CARRY A VARIETY OF FREEZING STORIES

The New York Times reported on the general nature of the freezing movement January 29th. Though a good report, it did not have the extensiveness, richness of detail, and concern for the possibility of extending life and avoiding unnecessary death, which have been its hallmarks.

Time Magazine has now had two or three articles on the freezing idea, the latest February 3rd. Time probably represents an average view, tinged of optimism succumbing to pessimism. In very few, if any, of the mass media reports are the possibilities of novel future solutions to reanimation considered. Most seem caught with the static view that if freezing causes cellular damage now, then person cannot be reanimated now or ever. That freezing causes damage and that the person cannot be reanimated right now is oh, so true. That the person can not be reanimated in the distant future shows either an enviable prescience of the future, or more likely a woeful lack of imagination and probably little thought, or a dismal interpretation of the history of science.

The Wilmington Morning News, Jan. 21, interviewed Stan Pawlowski, our LES coordinator there, and carried a very favorable story. He predicted that rejuvenation may be a reality within fifty years and that long before that freezing may provide an alternative to mercy killings. Pawlowski, a chemical engineer at Du Pont Experimental Station, offered the alternative that instead of killing incurables, or prolonging needless suffering, they could be frozen with some hope for the future.

Other papers and magazines to carry the Bedford story or stories previously on the freezing idea include Elite, 11 de Febrero, Caracas, Venezuela, an article entitled "Lograremos La Inmortalidad?" by our Caracas LES coordinator Kurt Bantelman. (Henry Donnat, now our LES coordinator in Mexico City, had been active earlier speaking to a meeting of doctors and others on the idea in Costa Rica.) Others include The Houston Post, Jan. 22, the New York Sunday News, Jan. 29, the Miami Herald, the Paris edition of the Times, Jan. 30, and This Week, Jan. 8-14, Moscow, in which a translation of a 1966 MacLean's (Canada) article was published.

The Los Angeles Times gave a balanced and almost sympathetic report by Dave Larsen on Jan. 19, while the same paper's Medical Editor, Harry Nelson's article the next day was headlined "Revival of Frozen Man Held Absurd" "Scientists Say It's Impossible to Thaw and Restore Life to Body" Several papers reported, as did the Los Angeles Times the comments of Dr. John Lyman, UCLA Biotechnology Laboratory and Dr. Stanley Jacob, one of the rediscoverers of the medical usefulness of DMSO, as well as other scientists. The combined report was very pessimistic: 1. that no single

organ has been frozen and restored to function. (Which is false) 2. Freezing has a cataclysmic effect on the fine structure of cells. (Which may or may not be true depending on which cells and whether perfused) 3. Thawing is very destructive. (Sigh) 4. Enzymes continue active even at very low temperatures. (How low?) 5. Liquid nitrogen bursts cells. ... Dr. Jacobs is reported to have said, apparently referring to Dr. Bedford, "He's dead once he's frozen and he's not going to come back again." A statement such as that makes us think that if the Prehoda words and actions phenomena repeats itself, we can expect to see Dr. Jacobs in there freezing people sometime in the future.

THE PRESS, SCIENCE, AND OUR NEWSLETTER

To provide balance for what is to follow, let it be said that the press and mass media in general have been more than fair to the freezing movement. They have presented all sides of the debate, though they were very tardy or unwilling to deal with this new idea when it was first proposed years ago. Likewise our newsletter must present both the pro and con if we have any pretence toward a scientific approach. If we cannot meet objections raised by scientists and others we should find a new theory. In future issues of the newsletter we will try to have detailed articles on some of the charges such as cataclysmic damage, cell bursting, and the like.

FIRST PERSON NOW REPORTED UNFROZEN

The San Francisco Chronicle, January 26, in an article by Charles Howe, reports in a long and detailed interview with Ed Hope, that the first person frozen in April 1966, an elderly woman from California, has now been unfrozen. The reasons don't seem to be too clear. The reasons reported are various, that Hope didn't think she could ever be reanimated, that he had been pestered, presumably by the relatives, and that it is just as if you were a manufacturer of ice cream products: if you developed a bad batch of Popsicles you simply had to throw them out and start again. One of our LES advisers wrote in and said he certainly didn't want anyone storing his frozen body ever to make an assumption that he couldn't eventually be repaired and reanimated.

LETTER FROM PROF. SUDA OF KOBE UNIVERSITY CLARIFIES POPULAR ARTICLE

Readers of the newsletter have been following, since September of 1965, some of the apparently epochmaking experiments of Prof. Suda. On Oct. 15, 1966 Nature published his experiments in freezing a cat's brain for as long as six months and then reviving it. This gave an added impetus and confidence to people in the freezing movement and led to popular articles, one of them in the National Enquirer, December 25, 1966, by Taro Suzuki, on Prof. Suda and his scientific work. Such popular articles can have the very useful function of informing others of implications and future possibilities envisaged by the scientist which he wouldn't have mentioned in his journal article. Professor Suda writes to us that Suzuki's article is "almost accurate" except for the following: The article implied or stated that Suda's work could possibly and directly lead to permanent life. This is a little strong. Suda's work might be a step in that direction, a facility, but permanent life would be in another department, the aging control department let us say. Second, he doesn't consider that the brain could enter cold storage for a rest. Cryogenic storage of the brain has no therapeutic value in itself. Cryogenic suspension may enable studying, operating, and repairing the brain in time. Describing the experiments themselves, one

LATE NOTE LIFE INTERNATIONAL carried the freezing stories Feb 20th issue.

sentence was out of place describing the removal of the brain from the cat's skull and placing it in the freezer. Also, the blood of another cat was used during the revival procedure and not that of the same cat frozen. Lastly, Prof. Suda's next steps are to study the physiological not the physical activity of the brain as indicated in the article.

INTERNAL FREEZING BY PERFUSION OF HELIUM HELD PROMISING FOR ORGANS

In 1964 Schimmel, Wajcner, Chatelain, and Legrain of Paris reported a new technique of perfusing rat and dog kidneys first with DMSO, then with liquid nitrogen to freeze. Good function was not obtained upon transplanting yet many aspects of the experiment indicated cryogenic storage and later function use might be obtained by further research. Now there are reports of imperfect but more promising success with the use of DMSO perfusion, then perfusion of helium through the renal artery. The helium was cooled by liquid nitrogen. Though transplanting has not been attempted thus far, laboratory measures of preservation of function are much higher than ever before. The latter group of researchers using helium are Bickis, Henderson and Edwards of McGill and Montreal General Hospital, noted in Medical News, Jan 16, 1967 and in Cryobiology, May-June 1966. If this line of research continues to obtain improved results, it would seem to indicate that optimal perfusion and freezing in the future will be a highly technical operation needing the very best of our cryobiologists and technicians.

VARIOUS TYPES OF CRYOBIOLOGICAL STORAGE CONTAINERS AVAILABLE

Cryo-Care has been excellent in providing the freezing movement with what appears to be a practical available storage unit. This was especially appreciated when other companies were disinterested or gave us the cold shoulder and promises that were not fulfilled. Cryo-Care's unit is specifically designed with humans in mind. It is essentially a large metal thermos with a super-insulation, reflective mylar in many layers within the vacuum between the inner and outer cylinder. Prices seem to range in the neighborhood of \$4000 with an additional \$300 per year needed for replacement of liquid nitrogen, maintenance and storage. Reports vary on how often the liquid nitrogen needs to be replaced.

For a wide variety of reasons: transportation problems, economy, increased demand, possible improvements, etc., it is wise to gain information on what else is available. The lower photo on the front page is of a cryobiological storage container manufactured by Minnesota Valley Engineering, of New Prague, Minnesota. MVE has four tanks or containers of the right capacity that they regularly manufacture, but they readily add that the geometry might not be ideal. This means that with the container shown, the person would have to be folded in before freezing, or frozen in a folded position sufficient to pass through a 25" neck opening, which may not be impossible for any average size person. Perhaps this is an unaccustomed thought? But if we have gone this far with the freezing idea, one more new thought shouldn't phase anyone. The various MVE containers range in price from about \$1600 to \$2700. For the model illustrated the liquid nitrogen capacity is 440 liters, which would have to be replaced approximately every three months. The container weighs 360 pounds empty. MVE indicated they could also manufacture a prototype specifically designed for our requirements, but we haven't found what the cost would be as yet.

STUDENTS INTERESTED IN SCIENCE PROJECTS PLEASE NOTE: "Suspended Animation and the Origin of Life" by Hinton and Blum, in the New Scientist, 28 Oct. 1965. Also the books: Biological Effects of Freezing and Super-Cooling by A.U. Smith, and Near Zero, an Anchor paperback by D.K.C. MacDonald.

LETTERSCONCERNING THE GRANDEUR AND MYSTERY OF DEATH IN LIFE
MAGAZINE AND WHETHER LES IS A CULT

Dear Ev,

Yes, I saw the piece by Wainwright. I don't dig his view about the grandeur and mystery of the idea of forever. This and the business about the "Great At-One-ment with Nature" is a big anti-poetic lie. Hell, there's no mystery in nothingness, nothing wonderful in organization and complexity--the World of the human body--racked into ruin. What some call forever is not a moment of time, not even a moment. A tick on a dog enjoys more of forever than a destroyed body. As for the chemicals and deep cold, there is a lot of God in chemicals, and a lot of grandeur in the power of deep cold.

People will talk about man's removal from God, but they will have their heads on backwards--because God is the god of life, and it is the living man who communes with Him; not the dead; but once man has taken the plunge from the high point of his organization down to the level of inorganic matter, how is he to commune any more with his God, ever? (Perhaps, but at present more unlikely than other means.) This plunge is what Homer called "steep destruction." It is an immoral plunge, because every human being has the responsibility of representing life in himself and furthering it in others. But once that fall occurs

LES IS NO CULT. Robert Prehoda's notion that LES is a cult is wrong. (FWR #27) The word "cult" suggests clannish secrecy, devotion to supernatural agencies such as demons, and the faddish dependence upon some kind of semi-mystical scheme: disgusting! LES is not a cult. It has no supernatural beliefs, no opinion not subject to rational discussion, research, and verification. LES demands intense intellectual activity (so as to avoid just such charges as this), seeks to sponsor research, and is not embarrassed to justify itself morally and philosophically.

On the other hand, the associations that cluster around the word "cult" suggest a small group of people demanding salvation by mere belief in a state of affairs that obtains apart from anything man can do about it. Let's be honest about it. A cult is what we call somebody else's system of worship; a religion is what we call our own. But LES is not a system of worship.

Best regards from the Waltons,
Prof. E. Wesley Walton, -Spartanburg

WOULD FORCE EVER BE NECESSARY WITH A FREEZING?

Dear Ev,

I don't want to sound ridiculous but it does seem to me that circumstances could very easily arise where only something like a commando type operation would achieve the freezing of a person in a hospital in time. If the authorities refused to cooperate what other course of action would there be? It cannot be wrong to do anything to save a life (except take other lives perhaps). I say perhaps because I am not convinced it is a foregone conclusion. The 'dead' man cannot do anything. If other people refuse to understand why should the 'dead' man be the one to lose? One might say that he is already half gone, but that is only really like saying somebody who will die if not given artificial respiration is half gone. ... At the same time I realise what determination is required to go against all the orthodox ways of dealing with the dead. It is so easy to let the established organisation take over. Nobody will condemn you if you allow it. There is really enormous pressure to conform. In fact it is simply unquestionable.

So would we sometimes need force? Freeze first - answer questions afterwards?

The trouble is I can't see anybody using brute force to get me frozen,

-next page-

should such extreme methods be necessary. And it is my own immortality that interests me most. Very frustrating, just the one time I won't be able to do anything and the one time I need all the help I can get. But I sure hate the idea of sacrificing anybody just not to make trouble. You have heard the one about the two Jews in front of the firing squad. One asks for a handkerchief to cover his eyes. The other says, 'For God's sake don't make trouble.'

MY COMMENTS ON KAROW'S LETTER AND WHAT CHANCES WE HAVE: Page 4, line 11 of newsletter #28 he says '...this chance is so remote as to be non-existent.' It is trivial but first of all, any chance that exists at all is not non-existent. The guess as to the magnitude of the chance in a case like this where we are talking about the future must be very much a matter of intuition, i.e. based on one's FEELINGS. The position of the expert is necessarily that of someone very well adapted to the present position. He is adjusted to getting on with the work in hand and not to 'idle' contemplation of a time out of his scale of working. I think I am the opposite. I pursue this kind of contemplation. I can imagine how marvellous it will be in the future. This has a bad effect on work. Naturally, those adjusted to productive work defend themselves against ideas that would threaten their nicely worked out orientations.

It may be useful to mention an analogy to the technological progress situation which seems apt yet I have not seen it mentioned yet. It is now possible to analyse ancient writing, e.g., parts of the Bible and to discover by such methods as stylistic analysis whether the parts were written by the same man or different men. This is of course a task of such length and tedium as to have its CHANCE OF BEING PERFORMED, SO REMOTE, AS TO BE NON-EXISTENT without the help of a computer. The information is there. Just as the damaged body would be there. But could the writers of those documents have imagined that, even if they considered it to be theoretically possible, that anyone would ever go to such trouble? Who would have the resources?

Yours ever,
Alan Worsley, -Hull, Eng.

Dear Mr. Cooper : -

OUR CONSCIOUSNESS MUST BE REMODELED

I have followed all the events from the frozen dog to the first frozen individual in Phoenix, etc. with great interest. Now there seems to have been frozen a second person in Los Angeles according to the press. (Jan. 16) In the same paper ("El Universal") appeared another article on a Venezuelan doctor interviewed on the question of freezing. He said "although theoretically there might be a possibility, practically there are too many obstacles for realizing revival. Furthermore, the psychological problems involved with a reanimated person are unsurmountable if one takes into account that he would be completely severed from family and other social relationships which are of significance to any normally living person at any given time".

It is interesting to note that the emphasis of most objectors is on the psychological side as if that were really the biggest obstacle for reanimation. This implies the necessity and high moral justification for an organization of the type the Life Ext. Soc. constitutes.

Our consciousness must be remodeled, our thinking as well as our moral attitude. This is just as important as concomitant scientific progress on the matter of freezing techniques, and one without the other would be nonsensical.

Personally, my time is now fully devoted to writing. Nominally, I am the President of a modern Academy in Valencia over here. I hope to publish a book in the U.S. soon, titled "The Revolt of the Cosmosophers". A cosmosopher I defined as a kind of sage, few among us at present, but

which I see coming in the future, a kind of philosopher-scientist-religious man in one. The premise is that neither the philosopher nor the scientist nor the religiously conscious man can set or absorb the ultimate goals of human culture. Only if the philosopher is also complementing his insight by scientific knowledge and through the scientific method and if he has a religious attitude can he do that. The same goes for a scientist if he is not to lose himself in specialization, and the same goes for the religious specialist who limits his view to only one faith or dogma instead of endeavoring to reach a broad religious perspective not bound to any dogmas. The cosmosopher which I see is fundamentally antidogmatic, like Schweitzer, Teilhard de Chardin, Socrates, etc.

This might also be the unexpressed philosophy of many LES members.

All the best to you and many regards,

Sincerely yours,

Kurt Bantelmann, Apartado 8104

Caracas, Venezuela

Dear Ev,

We are going to build a "freeze box" early next year, and then I will be converted to Christianity so I can pray that we (LES members in my area) are not "done in" by auto accidents -- such a grueling way for an LES member to go! (I'm joking about the Christianity, but we do plan to build a box.)

-Hope all goes well for you,

Pat Gossett, Moscow, Idaho

Dear Ev,

...Incidentally, my parents saw the cartoon in this last newsletter and are still hysterical, ...

Doug Jamnicki, Camp Hill, Penna.

Dear Sirs:

...To the extent that waiting until a person is clinically dead before attempting to lower the temperature results in important cell damage. To that extent it would be better for a person with no hope of survival to have his temperature lowered before clinical death. This probably means facilities outside of the U.S. where could be first allowed.

Yours truly,

Walter Friedman, New York City

Dear Ev,

Ever since my doctor showed me an article in one of his magazines last year I have really been interested. I find many people enthused by the idea, but I also find just as many who do not think much of the idea - which makes it quite obvious that they don't think too much of their lives and its possibilities, which can be oh, so beautiful and fruitful. ... I believe eventually the program could take on political side effects because of the profound effect it would have upon the populace and upon life in general.

One thing I strongly feel is that the LES should never become a hysterical society in its spread of ideas because ideas take time to take hold and people generally tend to resist change the older they get.

Endless Regards,

Alan Feinstein, Rockaway Beach, L.I.

Dear Mr. Cooper,

My reactions? Great satisfaction in the fact that an idea so "far-out" as most people consider it, can truly be seen for what it is: an opportunity unparalleled in human history for further life beyond death. ...

Sincerely/Paul Martos/ Wurtsmith AFB

LES NEW YORK MEETING will be taking place at the Henry Hudson Hotel, Friday evening, February 17th, about the time our FWR goes to press (if you will allow the use of the latter term rather loosely). We wish you the best of luck and wish we could be there, but there is too much work here this weekend if we expect to get the newsletter into the mail by Saturday night-Sunday morning.

LES ROCHESTER, NEW YORK MEETING, ROCHESTER PUBLIC LIBRARY MEETING ROOM Neil Shapiro, who is now in Rochester, writes that he and Michael Gilbert will probably have their first LES meeting in the library February 24th at 8pm. Neil is now LES coordinator for Rochester. Further information call 716-244-4469. All LES members, subscribers, friends and interested persons would be more than welcome.

LES WASHINGTON MONTHLY MEETINGS, THIRD TUESDAY OF EACH MONTH. The next two meetings will be February 21st and March 21st, 7:30pm, Georgetown Public Library, upstairs. There is much to talk over, many decisions to make, and much to do. Come, you will be welcome.

MANY ITEMS MAY NOT HAVE REACHED PRINT IN OUR NEWSLETTER, including news from France, Britain, the efforts of Gregory Wright in writing to foundations, etc., from the lack of time. However, if there are any glaring omissions, please send us a reminder?

STORAGE FACILITIES: In between newsletters and mountains of mail (same old excuse) we try to obtain suitable land, lab., and cryostorage facilities. One county apparently has given us the go-ahead on zoning. We don't expect that it will take forever, but we have been slow. Any suggestions for lab and cryostorage design would be greatly welcomed.

NEW COORDINATORS: Some deletions, changes, and additions are needed to our regular list. Some are as follows:

Pittsburgh, Penna	412 563-4638	Mrs. Margaret Wyatt
Mexico City, Mexico	28-86-73	Henry Donnat
Minneapolis, Minn	1514 Emerson Ave. No.	Richard Koplow
Moscow, Idaho	new phone # 882-7330	Pat Gossett.
Briançon, France	53.50.30	Daniel Dupré
Paris, France	INValides 58.22	Françoise Coulon

LES AND OTHER ORGANIZATIONS: Since various organizations have appeared, and new ones will continue to appear, all having as their purposes cryogenic storage of humans and other scientific and educational work in this area, LES suggests that no officer or coordinator of LES should also be an officer of another similar organization. Overlapping membership is no problem, of course. It is felt that the best interests of the public and the organizations are served by truly independent organizations. We will try to list, however, from time to time, where help can be found, no matter where. LES now has well over 725 members, Cryonics of NY 55 or more, Cryonics of California reported to have 40.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries or monies of any kind are paid to anyone in LES.

AFFIDAVITS now available. The one found in this newsletter is taken from an affidavit drawn by Michael Hart, an attorney in New York.

(This affidavit was taken from one that was drawn and used in 1966.)
(The times, conditions, and personal requirements may indicate changes.)

AFFIDAVIT OF CONSENT

STATE OF _____)
COUNTY OF _____) SS:

_____ (name of person), being duly sworn, deposes
and says:

I am the _____ (relationship as mother, brother, etc.) of _____
_____ (name of person who wishes to be frozen). I
presently reside at _____ (street and number) _____
_____ (city) _____ (state)

I know that it has been and is the desire and intent of _____
_____ (name of person wishing to be frozen) to attempt
to have his body frozen at his death and stored at very low temperatures,
in the hope of its possible future restoration and reanimation.

I concur with those desires and intentions of _____
_____ (name of person wishing to be frozen), and I hereby
specifically consent to his body being frozen at his death and stored
at very low temperatures.

I realize that the idea of freezing human bodies at death and
storing them at low temperatures is not endorsed by medical authorities,
and is not consistent with current medical or mortuary practice. I
further realize that it is still undecided which method of freezing and
storage will prove most effective, and least damaging to the cadaver.
I understand that all proposed methods of freezing and low temperature
storage of human cadavers are completely new and untried, and not
perfected in practice, and that their success is doubtful.

I therefore agree not to bring or maintain any suit or claim
against any person who assists or cooperates in the cooling or freezing
of the body of _____ (name of person wishing
to be frozen), or in the preparation of his body for freezing, or in
the storage of his body at low temperatures.

This immunity is intended to include:

- a) any doctor of medicine, whether or not he is licensed to
practice in _____ (name of state);
- b) any mortician, funeral home, or funeral director;
- c) any cemetery or cemetery official;
- d) my _____ (relation or friend), _____
_____ (name of relation, friend or executor),

and any person acting under his (or her) direction, or with his (or her)
approval or consent: but is not limited to such persons only.

I hereby disclaim and renounce any interest I may have in any and
all monies or property which _____ (name of
person wishing to be frozen) may designate or has designated to be
applied to the expenses of the freezing and storage of his (or her)
body.

Signature of person giving consent

Sworn to before me this _____ day
of _____, 196_.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer try another.

Please do not expect precision organization or categorical answers. A number of LES Coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Tell us if we have.) The LES Coordinator's work is voluntary. The movement is in its formative stages, and everyone simply does the best possible. All are LES Coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES WASHINGTON	(202)723-5397	Ev Cooper. Or try (301)277-0246
Akron, Ohio	(216)535-0105	Neil Shapiro
Alamo(East S.F.Bay)...	(415)837-6017	Mrs Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Kubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston		Ed Randall
Calgary		Gordon Petts
Camp Hill(Harrisburg)...	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger.Also (313)LI 6-4012.
France		Marc COLLET,54-Rosieres-Aux-Saline
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin,Also(205)588-3101.
Hull, England	48114 Hull	Alan Worsley.
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles.	(213)629-2702	Russ Stanley & Bob Johnson
Manchester, Engl.	CEN 5601/2	Brian Gilbert
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)TU4-1503	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York City	(212)939-1364	Michael Hart
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Phelps-Sweet,Organizing Adviser
Simi, Calif.	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr. & Mrs. E.D. Ellis
St.Michel les Bruges .	050/133.39	Dr. Carole Line Van-Gastel,(M.D.)
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PD4-8947	S.A. Pawlowski

FOR FURTHER INFORMATION WRITE TO:
(This is our mailing address only)

LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-

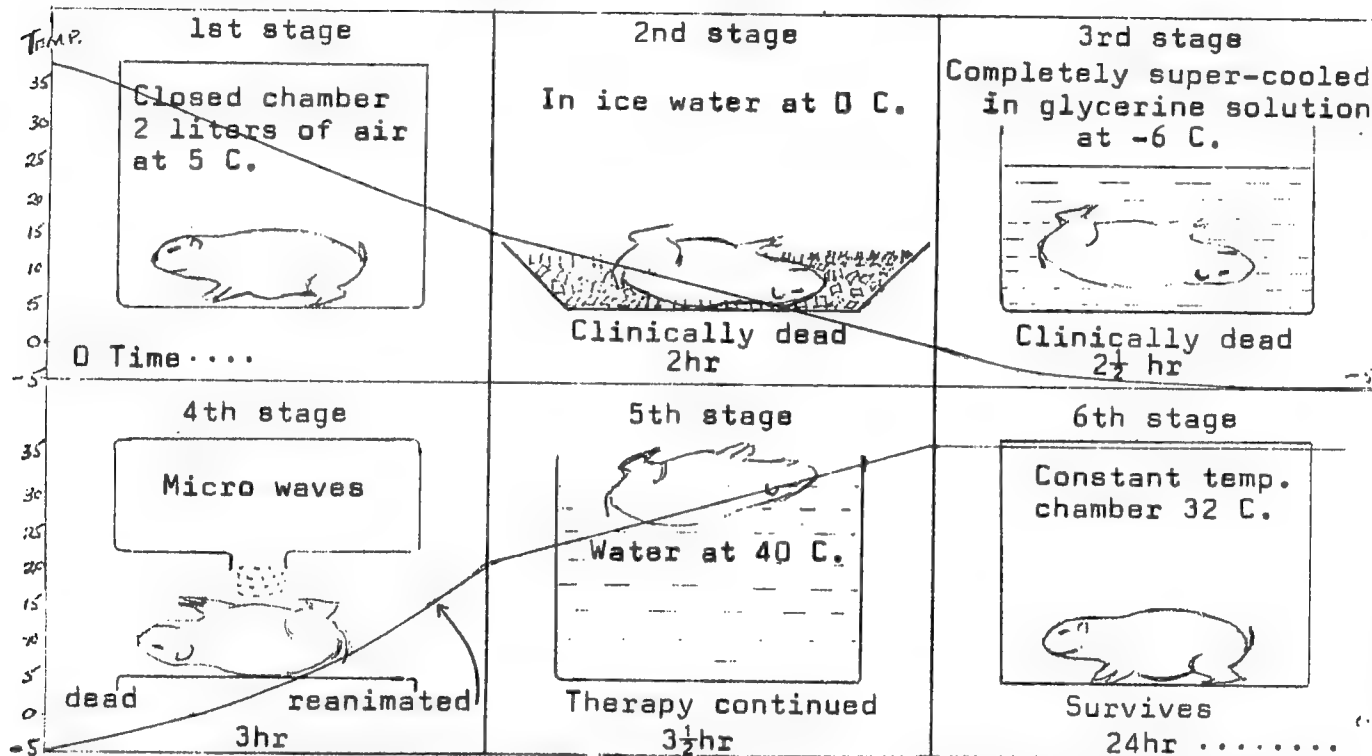


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Time, temperature and diagrams of cooling and resuscitation procedures.

CLINICAL DEATH PROLONGED TO SEVEN HOURS IN SIBERIAN MARMOTS WITH SURVIVAL. THE POSSIBILITY OF PROLONGING THIS STATE ARTIFICIALLY.

During World War II the University of Belgrade Library was destroyed. Dr. Andzhus was unable to look up the body temperature below which rats "could not survive." As he was unaware that other scientists had found the "lethal barrier" to be 15 to 20 C, he experimented and got rather interesting rates of survival from 1 C! This caused quite a stir even in cool-minded physiological circles. He went on to help Dr. Audrey Smith in London lower hamsters to -5 C with survival. People began to hypothesize that this eventually could be applied to humans. It also resulted in some modifications in the definition of death. Procedures were found whereby animals and then humans could survive longer and longer periods of clinical death. Obviously, these lines of experiment should be instructive toward how best to perfuse and freeze humans for a hoped for future reanimation.

Andzhus returned to Belgrade and reports of his more recent experiments indicate he is continuing to push back the absurd wall of death. He has extended the time of clinical death to two hours for white rats. What is perhaps more interesting and significant is that he has extended

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the period of clinical death (defined as no heart and lung function) to seven hours in Siberian marmots and yet has obtained some revival and survival. This is the absolute maximum so far. None survived beyond this period of clinical death. However, 100% of the marmots survived 3 hours of clinical death, which is a record even for the toughest hibernating varmint alive. From 3 hours on the rate of survival tapered to zero after 7 hours. All who passed through seven hours of death showed some life upon revival. But few if any were long term survivors after that period had been exceeded.

THE METHOD by which this was done is briefly sketched on page one. First, the rat or marmot is placed unanesthetized in a closed jar with 2 liters of air at 5 C. As asphyxiation occurs, the temperature regulating mechanism is thrown out of balance. Body temperature goes down gradually to about 15 C.

ASPHYXIA is defined as "suspended animation due to lack of oxygen (and excess carbon dioxide) in the blood." (Oxford Concise, and Webster's) Lack of oxygen alone is termed hypoxia. Excess carbon dioxide is called hypercapnia. Seemingly odd at first, but rational on examination, asphyxiation sets up an emergency "suspended animation" state within the animal whereby reanimation is easier with a certain degree of such deprivation than without it.

IN THE SECOND STAGE the temperature continues downward almost to zero by external cooling in ice water. In the third stage the rat or marmot is transferred to an antifreeze solution of either glycerine or propylene glycol for complete super-cooling to -6 C. Reanimation procedures begin with the 4th stage where micro-waves are used to heat the heart region. Heart and respiration ceased at about 10 C and now begin again with artificial respiration at about 15 C. Next the animal is warmed generally in a tepid bath until a normal body temperature is reached. In the last stage the animal is placed in a constant temperature chamber from a few hours to a day to enable the animal's temperature regulating mechanism to return to normal.

THE POSSIBILITIES of extending clinical death with revival -which is a type of suspended animation- are real. It is a series of very difficult technical questions, time, and research.

REFERENCES: Andzhus, R., and N. Khozich, "Maximal duration of reversible clinical death in certain hibernating and nonhibernating animals and the possibility of prolonging this state artificially." Byulleten' Eksperimental'noi Biologii i Meditsiny, Vol 60, no.9, p.38, 1965, translated in Federation Proceedings, Vol 24, no. 4 (July-August 1966) Pt II, pp. T648-T650.

Also, see, A.U. Smith, Biological Effects of Freezing and Super-Cooling, Williams and Wilkins, Baltimore, 1961.

THE WORKSHOP ITALIAN STYLE

This particular newsletter is so filled with cold, cold facts and sub-zero speculations that a welcome relief may be afforded by reporting our interlude with a group of warm, lively Italians. Having a four-man Rome TV crew direct ("Primo! Secundo! Diende!" -or something like that- followed by a loud handclap!) the filming of our workshop for six hours while we attempted to get out FWR is a unique, hilarious, flattering experience. Somehow the major portion of the 1000 FWRs got into the mail the next day, Sunday Feb. 19th. Given another miracle this one will be mailed March 26. Delivery may be slow. The P.O. has warned of a crisis with increased volumes of mail. We know how they feel. One person reported 9 days needed to deliver his newsletter in the greater DC metro area.

HISTORY & DISCUSSION OF THE SUGGESTED WAYS TO PERFUSE & FREEZE OUR FRIEND THE HOMO SAPIEN

To 1962. Perfusion for cooling and preparing the human body for freezing seems to have a rather short and uncertain history. Uncertain, for this writer welcomes any corrections in the tentative account that follows.

In earlier writings suggesting that humans be frozen for some possible future reanimation there is little or no reference to the importance of perfusion of humans in either Duhring's or Ettinger's works.*

1964. In the March 1964 LES Newsletter a freeze-card was suggested which read, "Preferred: Perfuse with glycerol while lowering body temp. 1 C/min to -50 C, transfer to liquid nitrogen (-196C)." In October 1964, our newsletter presented instructions for "Perfusion, Cooling, and Freezing the Human Body." These instructions may be useful today with a suggested change in the concentration of DMSO (dimethylsulfoxide) from 10 to 50% as indicated in intervening newsletters and discussion below. In November 1964 Bob Ettinger gave his "Body Preparation and Freezing -Interim Suggestions", in this newsletter.

1965. In October 1965 we updated freezing instructions to include the results of Suda's cat brain freezing experiments and the reasoning of Dr. C.E. Huggins for increasing the concentration of the cryoprotective agent used.

1967. In February 1967, Dante Brunol, M.D. and Biophysicist, wrote a 15 page paper "Description of the Method for Freezing Humans" duplicated by the Cryonics Society of California. This paper will be outlined or/and summarized and commented upon below. (I)

A simplified procedure for perfusing and freezing humans will follow with a criticism of Brunol's paper by a research scientist and M.D. (II)

To round out our current discussion the October 1964 LES instructions will be reprinted followed by a discussion of what might be incorporated at this date. (III)

(I) SUMMARY AND DISCUSSION OF BRUMOL'S "DESCRIPTION OF THE METHOD FOR FREEZING HUMANS"

In his introduction Dr. Brunol indicates he favors supercooling up to -30 C whereby the person might be kept for 4 or 5 years until freezing has been perfected. He would also prefer chemically induced vitrification whereby crystallization is avoided. Neither method is available. However, as Suda has revived a cat brain after 6 months frozen storage, Brunol will use this as a basis for a suggested method for storing humans.

The author deplors the lack of financial support, government and private, in supercooling. When death comes the individual cannot wait. Yet doctors are reluctant to freeze the victim for fear of damage to reputation. Brunol indicates or states that a wealthy person would have nothing to lose and future generations would be able to repair and revive

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* Duhring, Nathan, Immortality; Physically, Scientifically, Now. 20th C. Books, Washington, 1962, 147pp. mimeographed.

* Ettinger, R.C.W., The Prospect of Immortality, 1962, 79pp.

DISCUSSION OF BRUNOL'S PAPER CONTINUED, SUMMARY AND OUTLINE

him. Freezing is scientific. He notes that extreme remedies to extreme dangers has been part of the tradition of medicine.

GOALS OF THE METHOD. Brunol aims toward first, protecting the brain, second, avoiding crystallization and hypersalinity, and third, avoiding cell chemical loss and enzymatic and microorganismic damage. Discussion and suggestions for perfusion and freezing are made in this section of the paper as well as his following section. Artificial respiration, if begun immediately upon clinical death can protect the brain for as long as one hour. Cooling, of course, should begin as soon as possible with the aid of heart-lung machine, injection, or external cooling in ice water or possibly by spraying alcohol. External cooling is directed until 27 C is reached, then further cooling by perfusion is considered permissible. The ice water bath contains 10% DMSO.

For perfusion of DMSO-glycerine solution through the vascular system a pressure of 120mm Hg is advised from 37 C to 15 C, and 100mm below 15 C. For perfusion of the lungs inverted or venous perfusion is suggested at 20mm Hg below 20 C at least temporarily. After perfusion the author has the novel suggestion of washing the DMSO-glycerol solution away from outside the cells, but leaving the DMSO-glycerol inside the cell, with another perfusate of 10% Dextran in saline at +1 C.

Freezing the body is done first by salt and ice to -20 C, then dry ice to -79 C, and lastly with liquid nitrogen (apparently) to -196 C where the temperature would allow the body to wait for thousands of years if necessary.

PROCEDURE. At cardiac arrest artificial respiration is begun. Next an ingenious suggestion, that a plastic sack envelope the top half or more of the head, to the eyes where a band is tied across and behind the base of the head, and the remainder of the sack doubled back over the top of the head to make a container for external cooling with ice and water. An "iron heart" a machine that systematically depresses the chest, comes next. Meanwhile the body with thermistor in rectum is placed in a tub-like container with 10% DMSO ice water agitated. After the body temperature reaches 25 C, and after 2 liters of 5% Dextran and 300 mg of Heparin in isotonic solution have been injected, the body is removed from the tub. The femoral arteries and veins are connected to the heart-lung machine. Perfusion of 20% DMSO, 20% glycerol in saline at 1 to 4 C is begun, and continued until 10 C is obtained. Then perfusion of the lungs for 15 minutes and a wash out of the body for five minutes. Then a 30% DMSO, 30% glycerol solution is used to fill stomach, intestine, and pleural cavity. Freezing is accomplished as indicated above, allowing 24 hours for the first step with salt and ice.

RESPONSE TO CRITICISM. Brunol believes that the criticism he has received (presumably via reporters talking to other scientists, see previous newsletter) is unscientific. #1. That organs have not survived freezing and #2 that cells burst upon freezing are not true as Suda's experiments show, not to mention other successes. #3. That large animals have not been revived at present is irrelevant. The problem is to freeze with minimum present damage for revival by future generations. #4. Brunol would like to know what "miraculous" enzyme is still active below dry ice temperatures? He ends his paper by affirming that future generations should be able to solve the problems necessary to reanimate the presently frozen; that aging control will eventually be possible, and that the cost of the moon race is absurd in comparison to what could be done in medical research along the lines suggested.

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COMMENTS ON BRUNOL'S PAPER

First of all Brunol is to be congratulated endlessly for his help in freezing Prof. Bedford and now his willingness to write and have publicly circulated a paper specifically suggesting the perfusion and freezing of humans. Words cannot say enough for the importance of his direct action as well as his proposed instructions for freezing.

Apparently and naturally, Dr. Brunol does not take too kindly to criticism from those who know nothing about his method. However, it is hoped that he won't be too irritated at comments and questions from the editor who knows little, but with the spirit of wishing to learn more and assuming that all things can be improved upon.

The overall discussion of the problems and the wealth of interesting information in the paper are excellent. One realizes only too well that it is important to get additional instructions for freezing out and to people and not worry too much about the superficial niceties of scholarship. However, documentation of various statements was sorely missed. It is hoped that Dr. Brunol could supply us with this if possible. Any references that would lead us to research supporting two or three contentions would be especially appreciated.

First, some of us would appreciate a reference, or further discussion on why the warming but procedure.

Second, is perfusion with a heart-lung machine only to begin after the body temperature has reached 27 C? Is it not possible and perhaps preferable to arrange cooling with the aid of a heart-lung machine before that temperature has been reached? The assumption is that cooling via the machine is rather simple, quick, and more efficient than external cooling. Use of the machine need not exclude external cooling in addition.

Other requests for references or explanations are not so crucial but more matters of interest. It would be good to know where more information is available on the dog kidneys successfully transplanted after DMSO perfusion and months of storage at -6 C. Lastly, it would be interesting to hear more specifically how Dr. Bedford was perfused and frozen. Was a heart-lung machine not used, but only injections with a syringe or syringes? Everyone agrees the freezing was a magnificent accomplishment and no one expects perfection. But the expectation or hope was that this paper might provide more detailed information on what was done under emergency conditions. In sum, if there are deficiencies with Dr. Brunol's paper, they are minor and understandable, or more likely lack of understanding on our part. In general, he has taken the movement a fine step forward.

A SIMPLIFIED PROCEDURE FOR PERFUSION, COOLING, AND FREEZING THE HUMAN.

By a medical research scientist and M.D.
with comments on Dr. Brunol's paper.

I would like to make the following criticisms of Dr. Brunol's protocol.

1) This theory that the blood vessels should be washed clear of DMSO or glycerol seems not only ridiculous but dangerous. These molecules diffuse so rapidly from the cells into the vascular system that the wash out will also remove the DMSO from the cells, obviating the important cryoprotective value of these substances.

2) The extracorporeal pumping technique shown in Fig. 6A* seems incorrect to me. The pump should be between the arterial and venous systems, i.e., pump from the veins into the arteries (or vice versa in unusual circumstances) and the perfusate should be introduced into this system presumably at the venous end. Dr. Brunol appears to be pumping

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A SIMPLIFIED PROCEDURE FOR PERFUSION, COOLING, AND FREEZING THE HUMAN AND COMMENTS continued-

the solution in both the arteries and veins without taking provision for a return flow.

3) Suda's work indicates that a gradual addition of the cryoprotective material to the perfusion fluid may be important. This has not been taken into account by Dr. Brunol.

4) The rationale for using hypertonic salt solutions for perfusion because "the other cells of the body have a more resistant membrane" than red blood cells is open to serious doubt. One of the major problems in freezing injury stems from damage due to alteration in tissue osmolarity. As Suda, I would recommend that physiological concentrations always be used in the perfusion fluid.

I am somewhat confused by the preface of Dr. Brunol's report. Here he recommends supercooling in place of freezing but obviously uses the latter method in his protocol. Secondly the idea of chemically induced vitrification has no experimental basis at the present time.

Most of the other techniques proposed by Dr. Brunol seem reasonable and acceptable. Whatever differences I have on this matter are only opinions for there is little experimental evidence one way or the other at this point. I personally would like to make the procedure as simple as possible without compromising biologically important factors. To give some idea of how I feel about the problem, I have a tentative protocol, which can be compared and contrasted with that of Dr. Brunol. My protocol leans heavily on suggestions I have obtained, indirectly, from Drs. Suda and Karow.

1) Cardiac massage (intra- or extra-thoracic; I favor the former); mouth to mouth resuscitation.

2) Insertion of a two way cannula into a femoral artery and vein (one side should be sufficient).

3) Extracorporeal pump from vein into artery.

4) Introduce cooled (5-10°C) Hank's solution with 5% Dextran containing heparin and DMSO into venous end of pump. (Heparin injected prior to reestablishment of the circulation will not go far).

5) Increase concentration of DMSO in perfusate successively from 5% to 20% as perfusion proceeds. Total volume about 10-20 liters.

6) Remove some of the blood in venous return to compensate for perfusate fluids that are being added to the circulation. Temperature of blood or blood mixture removed should provide measure of body core temperature, obviating the rectal thermometer.

7) Catheterizing bladder to remove urine present or subsequently formed by these large volumes of fluid may be a minor consideration.

8) Cool subsequently by external means, i.e., dry ice, refrigeration, liquid N₂ chamber over 24 hour period.

If an extracorporeal pump is not available then intrathoracic cardiac massage with one's hand may prove more efficient and less traumatic than the "iron heart". In this case the perfusate can be given through one arm vein and the other arm vein used for compensating fluid volume.

*(Figure 6A is one of a series of figures attached at the end of Brunol's paper and shows the perfusion apparatus and connections to arteries and veins. Asterisk and this note added by editor.)

PERFUSION, COOLING, AND FREEZING THE HUMAN BODY
(Reprinted from the LES Newsletter, October 1964)

It is assumed that the person under consideration has either expressly stated that he wished to be frozen at or after death, or that would have been his express desire.

The general plan is to cool the body as thoroughly and evenly as possible, via extracorporeal circulation, with a cold perfusate toward the end of maximum cellular preservation with special concern for the brain. The body temperature is to be gradually lowered into the cryogenic ranges.

Either thoracotomy with direct heart cannulation, or the largest possible catheters may be introduced into the superior vena cava and the inferior vena cava via the external jugular and femoral veins. The inflow can be through the femoral and carotid arteries. The type of cannulation is a matter of choice and conditions. The venous blood is drained until the returning perfusate may be recooled and recirculated with benefit. Or, the fresh perfusate may be constantly introduced for maximum effectiveness, until the cells are thoroughly perfused, and circulation is impossible because of freezing.

A type of perfusion similar to this has been performed to obtain organs for homografts.¹ "In clinical use, insertion of the catheters was not done until the patient's death had been verified by the attending physician. In these instances, heparin was added to the perfusate in the amount equal to 3 mg. per kilogram of body weight of the proposed donor." If the time needed to insert the catheters and begin perfusion exceeds five minutes from the time of clinical death, circulation should be maintained by closed chest or open-chest massage as the case may be. A heat exchanger and pump are needed to cool and pump the perfusate through the body. The rate of flow would probably range from 60 ml. per kilogram per minute, initially, to 5 ml. per kilogram per minute, or less in the lower ranges.¹

The perfusate should be composed for maximum survival. Exactly what this may be can only be estimated at present. Most research indicates maximum cell survival in a 10% dimethyl sulfoxide (DMSO) medium.²⁻⁵ The mediums used have been homologous serum, physiologic saline, Ringer's solution, etc. A 10% solution of glycerol is perhaps second best to DMSO. If selective perfusion and individual attention to each organ and tissue were possible that might be preferred. Here we assume that at present only one general perfusate is practical.

Perfusion would preferably take place in conjunction with external cooling via a refrigerator, deep-freeze, ice, dry ice, or the gradual introduction of liquid nitrogen. Whatever combination is possible should be used to lower the temperature as evenly as possible at approximately 1°C per minute to -50°C, and then reduce to -195°C with liquid nitrogen.

With procedures not established as yet, approximations, substitutions and improvisations will be necessary. Therefore, this must be considered most tentative with changes to be made as research findings and clinical use indicates.

References

1. Marchioro, T.L. et al. Extracorporeal perfusion for obtaining post-mortem homografts. Surgery 54:900 (December) 1963.
2. Bloch, J.H. Preservative solutions for the freezing of whole organs in vitro. Federation Proceedings, Vol. 22, No. 2, Part 1, March-April 1963, #59.
3. Lehr, H.B. et al. Permanent survival of frozen rat skin autografts. Federation Proceedings. Vol. 22, No.2, Part 1, March-April 1963, #382.

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References continued-

4. Sherman, J.K. Dimethyl sulfoxide as a protective agent during freezing and thawing of human spermatozoa. Federation Proceedings, Vol. 23, No. 2, Part I, March-April 1964, #1566.
5. Mueller, F.O. et al. Use of deep-frozen human cornea in full-thickness grafts. British Medical Journal, #5407, August 22, 1964.

POSSIBLE ADDITIONS AND CHANGES TO THE ABOVE INSTRUCTIONS

1. WHAT IS THE PREFERRED CONCENTRATION OF THE CRYOPROTECTIVE AGENT?

There seems to be little difference of opinion on which cryoprotective agents to use. DMSO is perhaps preferred for its superior penetrating action and success in research. Glycerol is a close second and has been used with success on the brain by Suda. A mixture of DMSO and glycerol is preferred by Brunol and others. There is, however, a greater difference of opinion on what the concentration should be.

Best results in research indicate relatively low concentrations. But is that exactly the problem for best protecting humans for some future reanimation?

Dr. C.E. Huggins of Harvard and Massachusetts General Hospital has suggested that higher concentrations of DMSO, glycerol, or other cryoprotective agents be used in attempts at the "preservation of whole animals and human beings at cryogenic temperatures."⁶ The reasoning is that large tissue masses, under the inevitable variations in freezing rates and at very low temperatures need higher concentrations to reach and protect more distant cells. Scientists in the future should have little trouble washing out these concentrations. Today, protection of the cells is foremost. Thus it seems reasonable that the perfusate should be as high as 50%, or higher, of the cryoprotective agent chosen.

Thus the preferred concentration remains an open question. Discussion of this subject would be welcome.

2. VARIOUS EMERGENCY AND OTHER SUGGESTIONS

The perfusion, cooling, and freezing should be done in a hospital under most carefully controlled scientific conditions. Unfortunately many deaths occur away from ideal conditions or a hospital is unavailable. In an emergency take advantage of any reasonable substances and devices for perfusion and for producing cold.

The necessary supplies should be on hand such as DMSO, glycerol, heparin; dry ice should be readily available, a portable heart-lung machine if possible, and other equipment as indicated by the instructions. From our experience with animal experiments it would seem preferable to have the perfusate (balanced physiological saline and DMSO, let us say) prepared ahead of time (because of the heat of chemical reaction upon mixing) and stored in a refrigerator.

Take advantage of any reasonable method to introduce DMSO or/& glycerol into the body, especially the brain. Ice and water in a sack fashioned around the top half of the head will promote external cooling of the brain. Ice and water in a tub (with the gradual addition of DMSO if possible) may begin the cooling and perfusion process.

Gravity perfusion from an elevated bottle as with a transfusion is a simple alternative to a heart-lung machine. Using the heart as a pump by hand squeezing may prove most practical. Complete emersion in ice, water, DMSO, even in conjunction with vascular perfusion, might be considered. DMSO concentration can increase with temperature reduction.

AFTER PERFUSION AND COOLING the person may be frozen by salt and ice, by dry ice, or/& a deep-freeze. A person could be frozen simply wrapped in alternate layers of sheeting, dry ice and blankets. As long as the

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AFTER PERFUSION AND COOLING continued-

dry ice is kept in supply the person will remain frozen. An insulated box with dry ice could be used for temporary storage and transportation until liquid nitrogen refrigeration is obtained.

Freezing somehow should not be neglected just because conditions are not perfect, because these procedures seem crude and unusual, or because perfusion cannot be accomplished. Even an imperfect freezing might provide some remote chance of a distant future reanimation. At least the possibility cannot be dogmatically ruled out.

Looking toward the future, some expect an evolution from single unit storage to multi-unit cryogenic storage centers, and a movement of storage from locations of possible disturbance (from nuclear war, e.g.) to locations of maximum long-run safety. Storage in a long term liquid nitrogen environment in Antarctica is conceivable in the more distant future.

Further references.

6. Huggins, C.E. Federation Proceedings, Part III, March-April 1965. Especially for perfusion and freezing of the brain, note: I. Suda, "Viability of Long Term Frozen Cat Brain in Vitro" Nature 212, No. 5059, October 15, 1966, page 268.

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LETTER TO THE EDITOR

(After all those words above?)

Dear Ev

If I were to perish tomorrow, I would go to Phoenix feet-first on the following day. And then after about 20 years of loving cryocare, if Ed Hope were to take a vacation and forget to replenish my nitrogen ---do you know what would happen?

I'd lose my cool.

.....Harvey Dawson, Detroit, Mich.

NEWS FROM HERE AND THERE

LES IN ROCHESTER COMES ALIVE under the guidance of Neil Shapiro. Neil obtained advance notice of his LES meeting and an article on the freezing idea in the Democrat and Chronicle March 5th. The meeting the following Wednesday evening forming a Rochester Chapter of LES was attended by over 40 people. Speakers on the law and insurance as applied to freezing are tentatively scheduled for the first Friday in April at the Rundel Memorial Building at 8 p.m. Call 244-4469 for any possible changes.

PENNSYLVANIA: Tom DeWitt continues to put LES and Tunkhannock on the map. During the previous month he spoke or was interviewed on two radio programs in the Wilkes-Barre and Scranton areas. One was the Don Paul show on WBRE and the other the Dick Whittaker show "Speak Up" on WBAX. On March 28 Tom is scheduled to speak before the Wilkes Barre Rotary Club. If anyone could send him a copy of limited run Feb. 3 Life issue featuring the six page article on the Bedford freezing, LES, etc., or the Feb. 20th Life International edition carrying the same article, he would much appreciate it. He would have good use for that issue as a visual aid when giving talks. Tom DeWitt's address is, 50 West Harrison Street, Tunkhannock, Pa. 18657.

NEXT WASHINGTON MONTHLY LES MEETING AT GEORGETOWN PUBLIC LIBRARY, the third Tuesday of the month as usual, April 18th, 7:30p.m. Anyone interested is welcome. The newsletter workshop will probably take place on the Saturday following the monthly meeting (but not at the library). Bring a friend....and all that. PROBLEM FOR DISCUSSION: Does anyone have any idea to what extent truck vibration bothers cryogenic storage?

IN BRITAIN, BOB ETTINGER & ED HOPE ON THE FROST PROGRAMME

On February 5th Londoners received their first local transmission of a cryocapsule of Ed Hope's and a TV program with Bob Ettinger on the freezing idea. To the many problems in freezing, storage, and attempting revival in the future, Ettinger is reported to have replied, "there are many problems but not as terrible as being dead."

Two weeks later, Gerald Evans, who had been on the Frost Programme previously, got into a small debate with Dr. Edmund Delorme in an article in the Sunday Times. One of Dr. Delorme's main contentions was that a person kept at liquid nitrogen temperatures for several hours would be "irreversibly changed throughout." Among the replies to Delorme's general skepticism, Gerald Evans is reported as saying, "That is just the sort of thing they said to Galileo."

WASHINGTON: Ernest Karlson, physicist and affable LES Technical Adviser, appeared on WTTGTV for LES recently and is scheduled for the WMALTV "Here's Barbara Show" May 4th. Ev Cooper is slated for the WWDC Fred Gale Show, March 28th at 11:15 p.m.

MONTREAL: Two scientific societies at McGill University Medical School invited Ev Cooper to speak before approximately 500 persons, Feb. 24th, on a survey of the freeze-wait-reanimate hypothesis, its problems and degree of acceptance. Per capita interest in the idea in Canada appears to be relatively high in comparison to the U.S., for example. Is it the climate? Or, the activity of Jim Clancy, Montreal LES coordinator and Desmond Clancy, LES travelling coordinator? In any event, the willingness and interest of McGill to listen to and discuss the idea in such numbers is gratifying indeed!

CALIFORNIA: Californians are travelling along approximately the same avenues in three different groups: the Life Extension Society, the Cryonics Society of California, and the Bedford Foundation. Reports indicate the Bedford group is actively looking for land for cryogenic storage. As LES has somewhat splintered in California and various members' energies have been drawn into these other groups, Russ Stanley in L.A. is in dire need of volunteer help to unify and continue to organize LES in that area. Anyone who can help, call Russ Stanley or Bob Johnson at 629-2702.

MINNEAPOLIS, WILMINGTON, DETROIT We like to think that LES draws in more than its share of mentally alive, independent thinkers - characters if you will. One of the greatest of these good humored spirits seems to be Richard Koplow our LES coordinator in Minneapolis. He indicates that March 5, Tribune carried a most interesting article on the freezing idea and on the medical cryobiological work of Dr. Richard Lillehei. Dr. Lillehei considered the idea eventually feasible in 1964 and now apparently predicts that freeze-wait-reanimate could be perfected within a decade. Although Lillehei is looking toward the future for practical application, Koplow, in a letter to the editor the following Sunday, tactfully expressed that it might be practical now. / Stan Pawlowski in Wilmington continues on radio and has sent in excellent material on aging control for another issue. / In Detroit, Cryonics of Michigan reports membership rise.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries or monies of any kind are paid to anyone in LES. LES membership is apparently well over 800. --And well behind answering mail.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer try another. Please do not expect precision organization or categorical answers. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Some we may not had time to enter yet.) The LES coordinator's work is voluntary and not for personal monetary gain. The movement is in its formative stages, and everyone simply does the best possible. All are LES coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES WASHINGTON	(202)723-5397	Ev Cooper. or try (301)277-0246
Alamo(East S.F.Bay)...	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Calgary		Gordon Petts
Camp Hill(Harrisburg)...	(717)737-1271	Doug Jamnicki, & Tom Longshaw -Leave
Canacas		Kurt Bantelmann. -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Chicago	(312)726-3285	DonDe Grazia
Detroit	(313)543-2619	Bob Ettinger.Also (313)LI 6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin,Also 588-3101.
Hull, England	48114 Hull	Alan Worsley.
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson.
Mexico City	28-66-73	Henry Donnat
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York City	(212)939-1364	Michael Hart
Paris	INV. 58.22	Francaise Coulon
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm.
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara,	(805)965-7393	Marie Phelps-Sweet,Organizing Adviser
Simi, Calif.	(805)526-9181	Ruth Forzano
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Louis	(314)LA7-0548	Mr & Mrs E.E. Ellis
St.Michel les Bruges .	050/133.39	Dr. Carole Line Van-Gastel, (M.D.)
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington ...	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S A. Pawlowski

LIFE EXTENSTION SOCIETY, 2011 "N" St. NW., Washington, D.C. 20036

REQUEST FOR YOUR VOTES AND PREFERENCES
ELECTIONS

LES has been working toward election by mail from our entire membership. Our present system is far from perfect, however, we hope to gradually improve. All the Nominating Committee has been able to do is to find a slate of hopefully deserving workers who agree to carry on the work of the society. This slate is submitted for your approval, disapproval and write-in alternatives.

Proposed officer:	Office	Approve	Disapprove	Alternative
Bill Albaugh	Treasurer	_____	_____	_____
Marc Collet	Record. Sec.	_____	_____	_____
Ev Cooper	President	_____	_____	_____
Peter Kline	Parliamentarian	_____	_____	_____
John Prince	Vice-President	_____	_____	_____
E. Wesley Walton	Corresp. Sec.	_____	_____	_____

What changes would you like to see in LES? _____

(Attach additional sheets if needed.)(Your privacy will be respected.)
 Mail to: Mrs. Rochel Rynex, 3918 "W" Street Nw., Washington DC 20007.

------(detach here if you wish)-----

MONTREAL OR WASHINGTON? WHICH DO YOU PREFER?

At our 4th Annual Conference in Washington last fall, the votes for Washington or Montreal for an October 28, 1967 (anticipated date) Annual Conference were about evenly divided. We considered Montreal just as Expo 67 closes. However we don't know which city would really be most suitable and convenient for the greatest number.

If Montreal is chosen I definitely could attend Oct 28th _____

If Washington is chosen I definitely could attend Oct 28th _____

Preference: Washington _____ Montreal _____ Either _____

Name _____ Address _____

This portion can be mailed to either: Mrs. Rochel Rynex
 Or, to: Life Extension Society 3918 "W" Street Nw.
 2011 "N" Street Nw. Washington, DC 20007
 Washington, DC 20036

Additional comments, ideas, or suggestions? _____

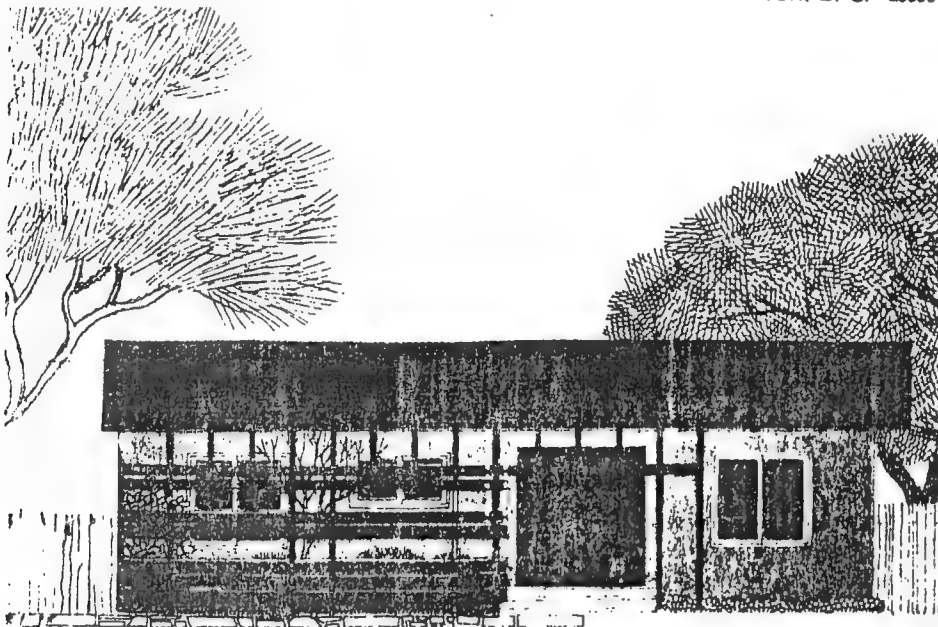


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



The above sketches are not to indicate that we have property and facilities as yet, for we haven't. What they indicate are some of the basic lines along which we are planning. Our request is for ideas from our readers, given these basic outlines.

We wish we could report that we have obtained land for a laboratory. We have come very close to purchasing in the past and feel very close to it at present. Even though we have no land actually in possession, we can plan our building and immediate surroundings. If we think and plan ahead now we can more than likely obtain ideas from our readers that we might not think of or hear of by ourselves.

If you can send us some useful ideas, hints, or information those ideas may save us money in construction and headaches in the future. Don't hesitate to send your ideas merely because you may not be an expert. Tests were once conducted on who was more creative with a pair of pliers, housewives or mechanics. As you can guess, the housewives proved more creative.

Our goal is to make our research unit and storage center as functional as possible, at least cost, yet attractive to the eye.

Our givens, though not inflexible, are more or less as follows. We assume our land to be as much as several acres or more, cleared except for 15 or 20 large trees scattered at random with wooded area in background and on one side. The basic building would be cement block, approximately 28' X 54' with nine foot walls, two doors, and possibly glass brick for the entrance of light. The roof can be flat, shed type, or shallow hip. The roof can overhang. The floor will be a cement slab. The land is assumed

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to be relatively level.

We very much need ideas on how to make a more or less standard cement block building attractive. If you have any suggestions how to use decorative building block, a covered walkway, or an interesting arrangement for driveway and small parking lot, please send them. If possible, make a sketch of your suggestion that we might show to the builder.

More difficult than making the exterior attractive is to produce a basic building design that is safe and functional. However difficult, the problem remains to design a cryobiological laboratory which would include provision for the low temperature storage of humans. Safety for those frozen and maintenance of temperature are the prime considerations. How would you arrange it?

So, if you have an idea, a suggestion, a plan, or information on any aspect of the above problems, please send it.

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GERMANY, ED HOPE MAKES VISIT TO PROMOTE MANUFACTURE OF CRYOCAPSULE

Ed Hope and his wife Rita visited Berlin and Essen early in March. Essen was originally the home of Mrs. Hope. His trip, coming after his appearance on TV with Bob Ettinger in London, resulted in considerable publicity. Among the many reports, one Berlin newspaper reports Mr. Hope as saying, "Nobody knows what will be possible a hundred years from now. I can't give any guarantees, but the chances for leaving the cryo-capsule alive are better every day."

FROM NEW YORK

Michael Hart, LES coordinator in New York, persuaded a major legal publisher, the Institute for Business Planning, to publish a freezing form. Introducing their form to their readers, IBP points to the considerable publicity over the first two persons frozen and reports, "There's even a society dedicated to the idea--The Life Extension Society." If IBP readers (lawyers) have a person who believes in life extension by freezing, the Institute has a form to "satisfy the client."

John Flynn continues active on the airwaves. In the Washington area, on April 17th, he was heard on the Barry Farber radio show. John Flynn was excellent with a fine sympathetic intelligent assist by Farber. The program may have been taped before the freezing of Dr. Bedford for Farber had Flynn on the ropes, in a friendly but enquiring fashion, asking why more doctors hadn't given public support to the idea. Interested listeners might watch for rebroadcasts in their areas.

WASHINGTON: Ev Cooper appeared on the WWDC Fred Gale radio broadcast March 28th. Fred Gale had a professional scoffer on the same program apparently to build listener interest. This made intelligent discussion of the freezing hypothesis practically impossible. Cooper might have used his time to better advantage going to a movie that evening. Undaunted, however, he has been promised by a group from WAVA broadcast station that they honestly wish to explore the idea on the air 7:30pm Sunday May 7th.

It was a great pleasure to have Gerald Feinberg (Dr. Feinberg) attend our very small monthly LES meeting at the Georgetown Public Library. The discussion revolved around problems as how a cryogenic storage area might be made safe from vandalism or any conceivable failures to maintain temperature.

SPAIN, FRANCE, BELGIUM, THE PRESS AND TV

The weekly magazine Actualidad, probably prompted by the freezing of Prof. Bedford, discussed the morality and possibilities of suspended animation via low temperatures at length in their February 2nd issue. Four or five experts in medicine, science, and theology presented varying views in Spanish.

In France, Paris-Match, a weekly magazine republished the Life magazine article on the freezing of Prof. Bedford. Life had previously published the article in their entire February 20th international edition. Paris-Match republished it in an early March edition.

From Belgium a television filming and interviewing unit came to LES in Washington several weeks ago for a leisurely and thorough discussion of the possibilities of cryogenic suspension. They also interviewed LES members in Houston and visited Cryo-Care in Phoenix.

WILMINGTON, DELAWARE

Stan Pawlowski, LES coordinator for Wilmington, has been appearing on various radio programs including one recently on WCAU. His next scheduled broadcast is with WDEL, 11:15pm, May 5th. He is also contributing material and scientific ideas toward developing an article on aging control for one of our later issues of FWR.

ENGLAND, MANCHESTER AND LONDON

We have been most fortunate in having Brian Gilbert of the University of Manchester as coordinator there for a long time. However, he has resigned as a coordinator, because of increased demands on his time and even some remote possibilities of going to Antarctica. We always thought it would be appropriate to have an LES member in Antarctica.

LES has the wonderful privilege of reporting that George Knowles is willing to be an LES coordinator in the London area (Stevenage). He is very unassuming but we find that he just happens to have a number of degrees in the sciences, such as, Chemistry from Oxford, Physiology from London, and others that we cannot even remember. Currently he is exploring the aging process in rotifers.

DEATH OF AN LES MEMBER IN FLORIDA

We have lost our second LES member under extremely adverse conditions. Mrs. Katharine Anderson, of Miami Shores, Florida, died unattended and was discovered after almost a day had passed. No arrangements for freezing had been made. By the time the daughter, Mrs. Margaret Hyatt, our LES coordinator in Pittsburgh, was informed, plus other complicating factors, it was decided that it was either impractical or impossible to place Mrs. Anderson in cryogenic suspension. Mrs. Anderson was quite a recent LES member, having been introduced to the idea only a short time before, and it is understandable that she may not have geared her thinking and decisions to the necessity of arrangements not to mention the difficulty of making them.

What might the rest of us learn for the future. Many of the common sense arrangements have been mentioned in previous newsletters. But the coming of death unexpected and unattended does indicate how important it is for us to obtain something like tiny transmitters (radio) which could immediately signal friends, neighbors, or the rescue squad of the stopping of the heart beat or pulse. Possibly small transmitters and alarm systems are now available. If any of our members or readers know of such, please inform us? (See next article on automated signal systems.)

MONITORING PATIENTS INSIDE AND OUTSIDE OF HOSPITALS

The Lenox Hill Hospital in New York has one whole floor devoted to monitoring critically ill patients. Electrodes are taped to the patient. The electrodes gather information on temperature, respiration, and blood pressure. The information can be read from dials at bedside as well as from an electric typewriter in a central data gathering unit. If the readings become erratic a gong sounds, signal lights flash, and the typewriter begins typing its report in red.

The New York Times, April 4, 1967, reports Dr. Nicholas DePasquale, a cardiologist with the unit as saying, "Sometimes electronically we may have an indication of death, but biologically death does not occur immediately.

"By instituting proper resuscitating methods as the emergency occurs, we may be able to revive the patient. He could go on living for 20 or 30 years more." Dr. DePasquale looks much further than this intensive care unit and considers that patient monitoring will bring great changes in treatment and open up whole new fields of care. In looking to the future, the New York Times article by David Bird goes on to report:

"Dr. DePasquale, a cardiologist, who was brought from Tulane University's School of Medicine last July to set up the unit looks to the day when heart patients outside the hospital will wear a wristwatch-size monitor that will constantly keep check on their condition.

"If a patient's condition were threatened, a signal would flash to a central computer that would, in turn, alert the patient's doctor."

Having a computer in the system would be ideal. But for LES and immediate practicality and simplicity, the small monitor might only set off an alarm for nearby aid if the blood pressure or pulse dropped below a certain point of danger.

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LETTERS TO THE EDITORLEGAL PROBLEMS & SUGGESTIONS

Dear Ev:

As an attorney doing probate and estate work, I am naturally concerned with the legal problems re freezing of the human body or its remains. The whole concept is indeed futuristic and it is probably a wonderful idea. I like thinking about it. Certainly it is less futuristic than flying to the moon was a few years ago.

There are many thoughts which should be entertained at an early date so no state laws would prevent a person's desires to be frozen from being frustrated.

Most state statutes provide that the custody and control of the remains of the deceased shall be in the surviving spouse or the nearest next of kin. In other words, it will be up to the surviving spouse in most cases whether the decedent will be frozen. This brings two thoughts to mind:

First of all, possibly the approach of the L.E.S. should be to the surviving spouse to freeze his or her mate who predeceases. It appears that your written material is primarily directed to the decedent. I note will forms suggested by L.E.S. However, in many states the particular State Statute of Wills provides for a decedent leaving his property to certain people. It should be pointed out that his own remains may not be "property" with which he may dispose of with a Will. Usually the

body is the "property" of the surviving spouse subject to possible control by the Probate or Surrogate Court as in New York it is called.

A will is generally a gift to your survivor. The decedent can hardly benefit from his own will. The benefits will be reaped by only survivors. Therefore, it is the survivor to whom the L.E.S. should direct more attention. A funeral and burial is usually the ordeal of the survivor. It is suggested that the L.E.S. may be able to offer such survivor an alternate to the funeral and burial and all the sadness associated with such procedures.

The second thought is that since the survivor will be responsible for freezing the decedent in most states, then there should be an obligation on the part of the survivor to freeze the decedent. A decedent's statement in the Will is probably not obligatory during this period of our law. Therefore, a direction by a decedent to the Will Executor to freeze the body may run counter to the statutory obligation of the surviving spouse to take custody and control of the body. If the body is not "property" over which the Will Executor has an obligation, then the direction in the Will to freeze the body will not obligate anyone.

Therefore it appears important that the surviving spouse be contractually obligated to perform whatever task is necessary to freeze the body. This can be done by the creation of an "inter vivos trust" - a living trust by the married couple, or a person with his next-of-kin. The trustee would enter into agreements with both persons whereby each of the married couple was obligated to perform the freezing should he or she be the survivor.

I shall discuss the possibilities and problems of such an arrangement in subsequent correspondence.

Sincerely

Leo J. Barrett, South Windsor, Conn.

AN ELDERLY PHYSIOLOGY PROFESSOR OBJECTS STRENUOUSLY TO THE FREEZING IDEA

(The following was originally just written up by an LES member as a graphic record of the conflict of attitudes about freezing in a small college. The writer is a student who hopes to get her Ph.D and who has done some teaching in the biological sciences.)

Yesterday, my 75+ year old professor tied into me with "You and your husband and the others in that organization, in my opinion, are trying to pull the biggest hoax of this century on the gullible American public. I think that you're completely nuts to do that and I told my physiology class just that this morning. As far as I'm concerned, that's the kind of advertising you're going to get around this school."

"This is a scientific problem, it's not going to work. You don't have any experimental evidence that it can be performed even with small animals. You have no right to offer hope of further life to people when you don't have any evidence that it's going to work. Someone in this thing is going to be making money off this thing and it really tees me off that by saying you're going to be frozen--with it appearing in that article--that thousands of other gullible people will be wanting to do it too. What does your husband's profession, have to do with scientific problems?"

I responded, "Most people don't question whether this will be achieved scientifically, they question the moral efficacy of it--whether it is desirable--he's concerned with the philosophical implications."

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THE PROFESSOR OBJECTS -continued-

"It said in that article that he said death is evil. What did he mean by that? There are things in nature that happen that just have to be accepted. Death isn't evil, it's just natural."

"Death is evil when it results in human suffering. Trying to fight death is a tradition with man; this freezing program is a culmination resulting from medicine's fight against death and suffering--it's an extension of medicine. It's natural to resist death or we wouldn't be practising medicine. If a person is drowning we don't stand back and let nature run her course, we jump in there and try to save him."

"When cells are frozen the water turns to ice and the cells are disrupted."

"Dr. _____, we're not trying to get results without a preservative--the behavior of untreated cells has nothing to do with what we're interested in."

"When you take an organism as large as a man you can't get a preservative to every cell of the body--how do you propose to do that?"

"The same way the blood reaches every cell--through the circulatory system."

"You don't know anything about physiology. I'm speaking from the standpoint of a physiologist. You don't know anything about metabolism--once it's stopped, it can't be started again."

"That's not true, metabolism is virtually stopped at the temperature of liquid nitrogen and bacteria stored at that temperature recover normally."

"Well that's different. Sperm and bacteria don't have much cytoplasm to them. Has an egg ever been successfully frozen and thawed?"

"Yes." "And continued normal development?" "I think so, I'd have to check."

"It still infuriates me to think your people are trying to put this over on the gullible people."

"It's not gullible people who accept this idea. It's people who put two and two together and get four, who can accept ideas for their logic not because everyone is thinking the same thing. Do you know what the gullible person thinks about this? Someone told me last night that the soul would get bored of sitting around in a frozen body so it wouldn't work. THAT is a response of a gullible person."

"Well I can see that I'm not going to convince you and you're not going to convince me. I'll tell you one thing though--this is going to hurt your chance of getting a fellowship. If you were applying for a fellowship to MY school, if I were the head of a department, I wouldn't give you one."

Today we did our work in peace and he, who has always given me A's (this is the 5th course I've had under him) said, "Well I can't always give you an A, what would you do if I gave you an F?" I thought about that a second and said, "I guess I'd have to spread some rumors around that you are losing your alertness." We laughed and when the work was all done he said, "Well I have to go now, any arguments about that?" "Not for today." "Oh, so we'll save that for another day, eh? Well I'll tell you. Yesterday you brought up the question about morality.* I think that you and your husband are highly immoral for trying to hold out hope to people for something that cannot and will not be done. Answer me this. Do you think that man who was frozen will someday get up and walk again?"

I hesitated only briefly, considering that blurting out a response
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THE PROFESSOR OBJECTS -continued

would look too irresponsible and said, "I think so."

"I can tell from the way you hesitated that you do not have a scientific mind. You don't have a scientific mind and I do. I've been around a long time and can evaluate things quite well that are scientific. You're not going to get along in graduate school if you even manage to get in. You know that article is going to hurt you--and it's going to hurt your husband's chances of getting in too. It's come at a bad time for you folks." "That's true."

"Dr. _____, this thing is in the air. You seem to think that just a few people are trying to pull something on the public. This is everywhere. I picked up an article in the February 1967 issue of Today's Health, which is under the aegis of the AMA. The article said, If you don't have the word cryobiology in your vocabulary, you'd better add it because it's becoming the biggest thing in medicine. It went on to tell about its applications in surgery, prospects of freezing organs within the next few years, and mentioned that British researchers had partially frozen a galago, a primate, and that research is booming. You say that this field hasn't made any scientific advances. When I mentioned the freezing and revival of a mammalian brain, you pooh-poohed the evidence saying it didn't mean a thing. Tell me, your son has an influential post with one of the space agencies. Is he as pessimistic about scientific progress as you are?" "What do you mean?" "We've never been to the moon. Does he think we can accomplish something that has never been done before?" "He isn't on that end of it." "Maybe not, but those are the people who are getting things done and we're going to do this."

*I forgot to mention that yesterday, when he was accusing me of being in a hoax to get money out of people, I replied: "Some people can't think in terms of others doing things that are moral or because of high ideals. Some people can only think in terms of people doing unconventional things out of meanness or for trying to get their money."

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Poem by
Leonard
Gilley

LIFE EXTENSION SOCIETY*

Full green, the ice in our arteries bends
The colors of a rainbow after a storm;
The carrion crow perched upon the loamy
Clavicle of a rotting horse cries caw-
Caw and shakes his beak, rattles
His shiny black wings. Health! health!
Is the song of the carrion crow;
And the earth is a tomb and the sky
Is arched by a rainbow that leads softly
to Heaven. Converted mausoleums
And the gravestones from destructive centuries
Shape strength against decay; dynamos
Whir like silver-plumed heron
In uncharted Okefenokee. Against the texture
Of cobalt steel, mankind destroyed itself
And we in leaded mausoleum vaults
Wait for God Himself to walk the earth again
To bring anew a human destiny that will smoke
And flare like torches upon the altar of Mars.

* The poem Life Extension Society was originally published in Descant,
The Texas Christian University Literary Journal, Winter, 1967
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MY WILL: TO BE AN ICECUBE

I wish to be frozen when it's time to die,
Thawed out every hundred years or so,
Discover where the world will go,
Learn each unknown why.

It may be sheer idiocy
To wait for a lonely future place,
A land where there be no dear face,
And very sorry I could be.

But you'll be sorrier, by and by,
If what's moldering in your grave
In cold storage could be saved.
What's to lose? It's worth a try.

Heaven sounds quite dull to me
I disbelieve faith's immortality
(If it's true, there goes my chance)
But the waltz of death is a useless dance
And a stranger god is calling me--
Whose name is Curiosity.

Please forgive the above. You must receive hundreds of silly verses,
but I couldn't resist. I seriously would like further information. ...

Sincerely,

Mrs. Judy Charpentier, Minneapolis.

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Dear Mr. Cooper:

There are several aspects of the life extension idea that I have not as yet heard discussed.

The individual who doesn't have sufficient funds to have his body frozen might consider having his head frozen (or, following Suda's research, just his brain) with the hope that some future generation will have the capability of providing him with the necessary replacement parts. This idea will, of course, be repugnant to some; however I, for one, would prefer decapitation to the grave.

Eternally yours,

Paul Nunez, La Jolla, California

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(From a comment on the bottom of his LES application form):

When I told my teacher (sister) about freezing a person, she said, "No one better freeze me or I'll come back and haunt them."

Pat Golden, Toledo, Ohio

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NEXT WASHINGTON MONTHLY LES MEETING AT GEORGETOWN PUBLIC LIBRARY, the third Tuesday of the month as usual, May 16th, 7:30pm. Anyone interested is welcome. PROBLEM FOR DISCUSSION: How do we persuade that first clinic or hospital, anywhere, to become publicly open to patients for freezing when death comes? -- Considering the Nunez alternative above, and think-

PROBLEM FOR DISCUSSION -continued

-ing of the twists and turns of civilization, isn't it very possible that hospitals and clinics throughout the world would be much more amenable to perfusing and removing the brain at death and then placing it in a reasonably small liquid nitrogen container? Especially if LES was then willing to take over storage? Surgeons are used to removing an organ at death, whereas freezing an entire person is foreign and upsetting to them. --The person's body could be buried after the usual funeral and tradition would be served for those who demand it. Thus, freezing of the brain alone might be a step in the direction of entire body freezing and would be better than nothing. Such a step might help the freezing movement along; it is conceivable it might be adequate in itself, and as Nunez says it is infinitely preferable to the grave.

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A HISTORY OF IDEAS ABOUT THE PROLONGATION OF LIFE: The Evolution of Prolongevity Hypotheses to 1800, by Dr. Gerald Gruman, Assistant Professor of History, University of Massachusetts, has been published by the American Philosophical Society.

"The problem of death is a central part of the dilemma of modern man."

This is the way Professor Gruman begins his interesting and enlightening book. He continues, that this dilemma comes from the decline in the belief that man will continue life in another world after death. With the belief in divine aid weakened or gone in respect to continuing life man feels helpless in the face of physical death. Some men respond by placing a taboo on the thought and discussion of death. Existentialists display the absurdity of death to urge men to be morally responsible here and now, their only chance, in heroic fashion. Another group retreat into the past. Another minority, more closely associated with science, but sometimes with magic, tries physically to do something about extending life. In these few words, little can be conveyed of the richness of information contained in his book. As indicated above, Professor Gruman does not limit himself to the time previous to 1800. He is an LES member and advisor, and has written one of the prefaces to Bob Ettinger's book, The Prospect of Immortality. Gruman's book can be ordered for \$3 from the American Philosophical Society, 104 5th Street, Philadelphia, Pennsylvania.

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REQUEST FOR PEOPLE IN CALIFORNIA TO HELP REVITALIZE LES GROUPS THERE

LES has been somewhat splintered in Southern California with energy drawn off into Cryonics of California and the Bedford Group. In Northern California, around the Bay region LES has never really been well organized perhaps from insufficient numbers. In any event, anyone who is willing, please contact Mrs DeCavnick in the Bay area, or Russ Stanley and Bob Johnson in the L.A. area, especially.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries or monies of any kind are paid to anyone in LES. LES membership is apparently well over 825. --And well behind answering mail.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LFS or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? Some we have not had time to enter yet.) The LES coordinator's work is voluntary and not for personal monetary gain. The movement is in its formative stages, and everyone simply does the best possible. All are LES coordinators or LES officers below except Bob Ettinger. Bob has unselfishly made himself available for the best of advice and help in freezing.

LES WASHINGTON	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East S.F.Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo, N.M.		P. J. Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Poeters, or 014-30-336
Baltimore		Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Calgary		Gordon Petts
Camp Hill(Harrisburg)	(717)737-1271	Doug Jamnicki, & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Chicago	(312)726-3285	Don De Grazia
Detroit	(313)543-2619	Bob Ettinger. Also (313)LI 6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4=4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hull, England	48114 Hull	Alan Worsley
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin. (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Minneapolis	(612)522-9184	Richard Koplou
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York City	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58.22	Françoise Coulon
Philadelphia	(215)HI6-3339	Bob Cohen, after 7pm
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Sweet, Organizing Adviser
South Bend, Indiana	(tel. book)	Eli Spitzer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Michel les Bruges	050/133.39	Dr. Carole Line Van-Gastel, (M.D.)
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas Dewitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, DC. 20036

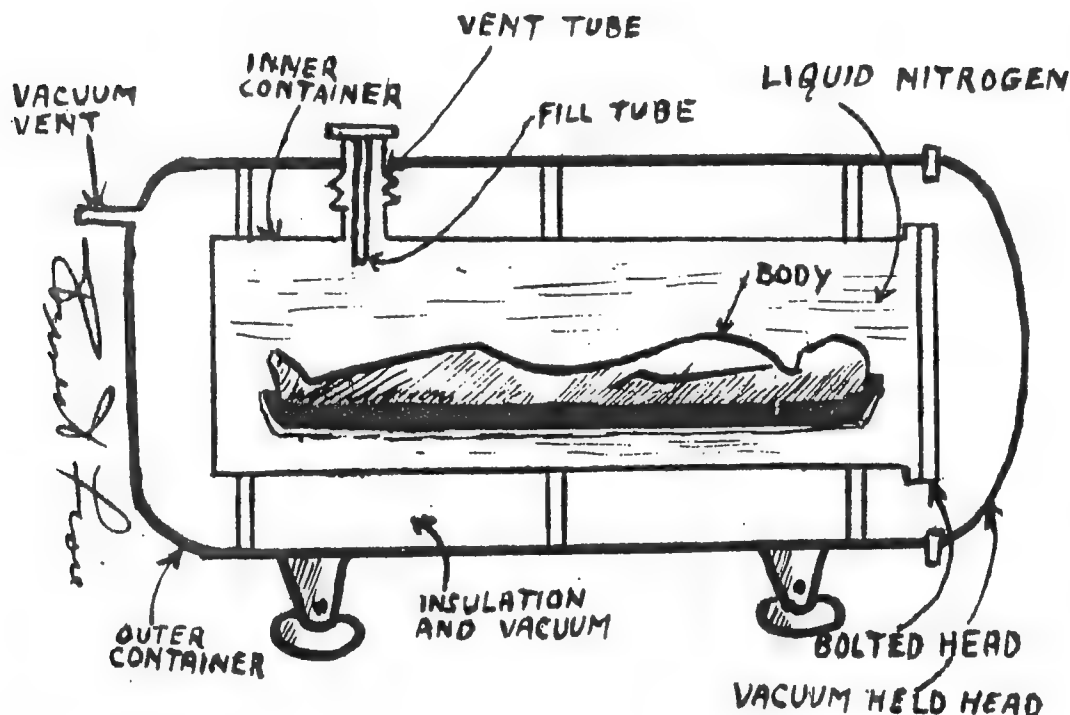


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Cross sectional view of a "thermos type" of liquid nitrogen cryogenic storage container for a human.

MORE ON THE CRYOGENIC STORAGE OF HUMANS

How does a cryogenic container for the storage of a human work? Where is the liquid nitrogen put? How often would the liquid nitrogen have to be replaced? What alternative types of cryogenic or cryobiological storage are there? What dangers are there for losing the desired low temperatures?

These are questions we will
-continued p. 4

CURRENT AND FUTURE PROSPECTS FOR THE ACHIEVEMENT OF AGING CONTROL

Most people now living, and some who are dying, can only conceivably re-enter the future for extended lives via freezing. However, it is also conceivable that some now living -those with long life spans ahead of them- will reach an era, perhaps near the end of this century or early in the next, when aging control and rejuvena-

-continued p. 2

-copyright 1967-

PROSPECTS FOR AGING CONTROL continued

tion may become practically available. Then eventually, if all goes well, those persons frozen will be reanimated and aging control will become available to them also. But how long will it be before aging control becomes a reality?

It would appear as if the control of aging is going to come upon us very gradually. Some minute control of aging may already be a fact. Other signs of promise are reported everyday.

Walter Sullivan, science editor, in this last Sunday's New York Times (5/14/67) reports from Moscow that a Rumanian biochemist has concocted a 'youth cocktail' that mitigates a few of the effects of aging. The cocktail contains the amino acid cysteine. Cysteine is desired in order to encourage the formation of sulphur-hydrogen molecules in the energy processing units of the cells. Sulphur-hydrogen molecules are preferred sulphur bonded to sulphur molecules which predominate in the aged. This might be called the sulphur reduction theory or hypothesis.

Moscow biochemists look with some skepticism on the sulphur reduction theory because of some previously exaggerated claims for aging control which originated several decades ago in Rumania. Presumably this refers to the Dr. Anna Aslan procaine or novacaine treatments which became widespread and were supposed to keep people more youthful. Now these treatments have almost faded from view for the opinion of many experts is that novacaine provided but a momentary pep-up.

Ultimately, however, the sulphur reduction theory stands or falls on its own merits and has little or nothing to do with some other theory originating in the same area.

CROSS-LINK THEORIES:

Various aging theories can only be classified in a rough and ready manner for they overlap to a considerable degree, fill in the vacancies of other theories, and may often be somewhat compatible with a theory of another name. The sulphur reduction, or sulphur bonding theory above, seems to have an affinity with the cross-link collagen theories initiated over a quarter of a century ago by Dr. Johan Bjorksten. With these theories the body becomes progressively rigid and nonfunctioning from the increased non-operating cross-linked molecules in the cells.

MUTATION AND RADIATION THEORIES

These theories have been somewhat more pessimistic or fatalistic. Most of them assert or imply that man has a relatively fixed span of life from degenerative changes in vital molecular structures such as the genes. The degenerative changes can come from radiation or from a reaction to foreign substances. These are mutations that tend to reduce the life span.

PROGRAM THEORIES

The idea here is that evolution has over eons of time produced a program for the production and survival of the individual, but only to the extent he or she was an aid to the species. The program waned and disappeared as the fitness wanes. In other words the individual is programmed into non-existence as his utility disappears. This would seem to be a pessimistic theory. Yet, Alex Comfort, one of the world's authorities on aging, holds this theory and also was one of the first to urge that gerontologists get with the modern world of science and do something about aging. Presumably if enough is known about the genes and any other molecular structures concerned with the program, aging might be controlled and the demands of utility might be satisfied also. Or is it possible we may rise to a stage of life where utility may not be as important for the individual as it has been?

PROSPECTS FOR AGING CONTROL continuedEXPERIMENTS WHICH HAVE EXTENDED LIFE

There is no lack of evidence that life can be extended under laboratory conditions. Here are a few examples:

1. Amoeba with a normal life span of two days have not been allowed to reach their critical size and their lives have been extended to 130 days or 65 times their normal life span. At the end of this extended life they could still divide normally and continue living. (New Scientist, 4 Nov. 1965).
2. Dr. A.I. Lansing has shown that the life span of rotifers, a wheel-like micro-organism, can be extended four times by continuous selection of the offspring of the youngest mothers of each generation.
3. Wigglesworth of Cambridge, C.W. Williams of Harvard, and Gilbert and Schneiderman of Cornell have all contributed toward showing that a "juvenile hormone" will stop aging or further maturation in caterpillars.
4. McCay at Cornell and Nikitin at Kharkov have both shown that the life span of rats can be extended up to two times by restriction and control of diet.

SCIENTIFIC WORK WHICH SHOWS PROMISE FOR EVENTUALLY EXTENDING HUMAN LIFE

All of science including the experiments above will help toward eventually stabilizing a person's biological age. However, certain research, especially that unravelling the genetic code and the structure of DNA, is fundamental.

Nobel Prize Winners, Jacob and Monod of Paris, and the later work of Gilbert and Muller-Hill of Harvard has led to the discovery of a repressor molecule which switches off the synthesis of protein in the bacterial cell. If the same or similar mechanism is operating in human cells, the production of old proteins could be stopped by unleashing the repressors. --But, there is no manager DNA for making the young proteins. A way around this has been proposed by James Bonner of Cal Tech. He has suggested that it may be possible to inject an artificially made virus, constructed of young DNA, into the older cells. If this worked, the virus would be an elixir of youth. Oddly, this suggestion by Bonner seems remotely similar to the practical therapy of Dr. Paul Niehans of injecting young cells into mature or aged bodies. At present the observing scientific community doesn't agree that Niehans' cell therapy does much good. It seems probable that Niehans is not adding decades to anyone's lifespan, but he and others may be on the opening paths of therapy which eventually will.

Next, there is a whole spectrum of possibilities via cell culture and genetic engineering that may, and without doubt will, extend life. These possibilities include repairing, regenerating, or regrowing new organs within or without the body. Repair may be initiated by introducing the desired gene into an organ by the aid of virus or by the direct introduction of DNA. If more primitive organisms can regenerate organs there is little reason to believe that scientists cannot eventually turn certain genes on again to replace a worn out liver for example.

It is expected that science will come up with something more sophisticated than the replacement of one part after another to extend life. But, theoretically it could be done this way. Some feel it is even possible to transplant a new brain one half at a time and still retain a person's original identity. Whether the latter ever comes to pass remains to be seen. But certainly viral and genetic repair of organs,

PROSPECTS FOR AGING CONTROL continued

regeneration, and replacement of organs by numerous means is in the offing.

If the above are closer to the laboratory than to clinical application, there remains most of medicine which is attempting to extend the life of each person. And, there are a bare few therapies which indicate some slight reduction in the aging process. The two with probably the greatest scientific support are testosterone and especially estrogen hormone supplements.

Granted there isn't much one can take advantage of immediately as a dramatic extension of life, except freezing as a holding operation until aging control is available. But, a discussion of these possibilities is very important because it makes one aware that life prolongation is in process, and may be, or more likely will be, a reality in the near future, not in a very distant future.

Additional reading: On the repressor molecule read, "The Switch That Controls Life's Shape" in the New Scientist, 9 Feb. 1967. On aging in general read the book The Process of Ageing by Alex Comfort, Signet, 1964. (Our thanks to Stan Pawlowski for instigating the article, collecting information and help with the writing. But any errors are the fault of the editor.) * * *

POSSIBILITY OF A CLINIC AND CRYOSTORAGE IN SICILY DISCUSSED

We are very pleased to report that Professor and Doctor Giuseppe Valenti is planning a modern clinic and cryostorage area near the city of Catania. This is an area reported to have panoramic scenery and near orange groves. All of this sounds as good as a dream and we wish Prof. Valenti, who will also act as LES coordinator for Sicily, the best of success with his building program.

LES BUILDING PLANS NEAR WASHINGTON DC COME TO AN ABRUPT HALT

The day of a final hearing for a use permit and permit to build LES facilities we found the "industrially zoned" land we had arranged to buy was merely rural land. When the agent selling the land was confronted with the difference between the way the land was represented (industrial) and the category it was really in (rural), he answered that it was up for zoning and would surely be zoned industrial in the future. On top of this the board deciding on the use permit delayed their decision. Though such a state of affairs seems tragic and unnecessary to us, it is perhaps just another delay, and we are actively seeking other land, or land and building, that could be converted to our use.

NEW LES COORDINATORS IN MASSACHUSETTS, FLORIDA, ITALY, AND MALAYSIA

If LES has been slow with facilities near Washington, it has obtained some excellent help at a distance through the courtesy, energy and interest of Prof. Valenti in Italy, Vicki Gerard near St. Petersburg, Florida, Dr. Stuart Block in Shrewsbury, Massachusetts, and Ho Sai-Yuen in Kepong, Malaysia. Prof. Valenti, a godsend from sunny Sicily, is referred to above. Miss Gerard, fortunate in having some medical school training, will be our LES coordinator in the St. Petersburg area. Dr. Block has specialized in carbohydrate biochemistry, done graduate research study at the Worcester Foundation, now teaches chemistry, and has a letter in this newsletter discussing possible new cryoprotective agents. Ho Sai-Yuen would appreciate any extra books, articles, or information on cryobiology. Send to him care of the Forest Research Institute, Kepong, Selangor, Malaysia. There is no library in Kepong.

CRYOGENIC STORAGE OF HUMANS continued

attempt to answer or present some of the opinions of the experts.

The most general principles of liquid nitrogen storage are quite simple. The job is merely to keep enough liquid nitrogen (-195°C) in sufficiently close proximity to the object to be stored. Any heat picked up by the liquid nitrogen excites some of the molecules of that fluid. If the excitement of those molecules is sufficient they escape from the liquid taking heat with them. A person could remain frozen in a sufficiently large open bowl if enough liquid nitrogen was kept in supply. Liquid nitrogen is chosen as a refrigerant as it is the least expensive, safe manner of obtaining extreme low temperatures. Dry ice would probably be preferred for initial freezing purposes and during any transport necessary.

If we wish to improve the efficiency of our simple system of the object in a bowl of liquid nitrogen, we then insulate the walls of the bowl and bring them upward and over the object to be kept cold. But we always leave an opening for the evaporating liquid nitrogen so the heat can escape. One of the best ways of insulating the walls of our container is to arrange a vacuum within the walls. If this is done we have a thermos or a dewar. To increase the efficiency further, many layers of reflective foil between very thin layers of plastic or glass mat are placed within the vacuum to stop any radiant heat from getting in. Other factors which determine efficiency (and how often the liquid nitrogen has to be replaced) are: shape and size of the container (the more it is spherical and the larger, the more efficient), the surrounding temperature, and the degree of vacuum. Perfecting these factors can be highly technical and very difficult.

Normally speaking, liquid nitrogen would have to be replaced once every three months in the type of cryogenic storage container found in laboratories sufficient in size to store a human. In containers large enough to store hundreds of persons it is possible the liquid nitrogen would only have to be replenished every year or so. Other estimates are even more optimistic.

Let us now discuss the dangers and some conceivable alternatives in maintaining low temperatures. One of the greatest dangers is that if a person dies now he may not get the cooperation necessary to get frozen. But let us assume he is frozen and then investigate possible dangers.

Those dangers might be: disruption from nuclear war, mechanical failure, human failure including vandalism, decisions to discontinue cryogenic storage, and accidents. To reduce these dangers to a minimum it would seem best to remove those frozen far from areas of possible nuclear war, vandalism, mechanical devices with moving parts, and from any other humans who could affect the frozen adversely. Though it may be immediately impractical we might work toward systems which could maintain themselves for years or decades independent of service. They could be placed deep within the earth, seas, in Antarctica, or even in space.

* * *

RECENT RESEARCH IN TEXAS ON ACCELERATING AGING

Complete aging control means the ability to accelerate aging (for impatient youngsters, perhaps) as well as hold it constant or rejuvenate. Research chemist Arnold Swanson at the VA Center, Temple, Texas accelerates aging in rats to learn about such cellular phenomena. On diets of irradiated ergosterol his rats age and die within months compared to controls which live a year or so. Dr. Swanson states, "aging is not a natural thing. If we can isolate the catalyst that disrupts normal cell metabolism and find chemical means of restricting it, there is no reason

RECENT RESEARCH ON ACCELERATING AGING continued

why man should not live at least 200 years." Our thanks to Helen Silver for noting this research in "Making Rats Grow Old Before Their Time" Medical World News, May 5, 1967.

LETTERS TO THE EDITOR

---ALL LES MEMBERS WHO HAVE THE FIRST NAME OF "RUSS" ARE ALIVE AND WELL IN OR NEAR LOS ANGELES!

Dear Ev:

Wasn't it Mark Twain who said that the reports of his death were greatly exaggerated - or heart attack-----in the case at hand? I can well understand how you misunderstood and thanks Ev, for the added page to FREEZE-WAIT issue, which is excellent. (LES had an extra page in the April newsletter reporting the supposed heart attack of Russ Stanley and asking Southern California LES members, to whom it was sent, for help. Later we learned it was Russ Van Norden, not Russ Stanley.) I'll be happy as 40 thousand larks when your building is an actuality and I have the greatest expectations that it will be standing there in all it's glory and equipment, which will inspire those who want to LIVE -LIVE - LIVE. Remember Aunti Mame as she went up the stairs (in the stage play and movie) crying "LIVE, LIVE, LIVE?"

The different groups here make it a little difficult I guess, but so long as integrity is maintained - the very best we can - we will succeed. In time, when FREEZE-WAIT is the only way to go 'temporarily', we will need all the help and watchfulness possible.

Talked to Dr. Able. He called me immediately when he received your letter and was relieved. He is sincere and must have his hands full working to establish the freeze idea, in addition to a large general practice as a physician. We are indebted to him for his cooperation at the time Prof. Bedford died.

Bob Nelson had done a great deal and continues to do the best he can. It is difficult for anyone to satisfy all. Sometimes I've been aggravated - with myself as well as with others.

Please try to put in a prominent place the NEW CHOLESTEROL DRUG information I'm sending. (chlorophenoxyisobutyrate, trade names Clofibrate or CPIB) The drug might add years to many lives.

I wish to hevvin a few hospital rooms could be a part of your installation - as people want to be cured when hospitalized -right?

The patient had had the attack (Russ Van Norden) is in good condition. A similarity of names and a bad telephone connection can really louse up the facts.

Thanks for the extra midnight work. I received about a dozen calls from members in the Los Angeles area. For their interest I am most grateful.

Best wishes for endless happy days,
Russ Stanley

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A DOCTOR WRITES CONCERNING THE INCREASED TIME THAT MAY BE AVAILABLE BETWEEN DEATH AND THE BEGINNING OF PERFUSION AND COOLING IF CERTAIN PROCEDURES ARE FOLLOWED

Dear Ev,

I felt that you should be made aware of a bit of information I recently learned about. (Some experiments on dogs have been done in Philadelphia whereby it was found that cortical neurons could survive anoxia for at least one half hour, with no cerebral blood flow if the CSF pressure was sufficiently high. Anoxia was not such a problem as acidosis and the failure of blood vessels to remain patent. -Editor's note)

-continued next page-

LETTERS TO THE EDITOR continued

It would take me another ten pages to explain all this properly, but the point is that you DO have a much better margin of time to do things than formerly thought. In my last letter I stressed the fact that there is no sense even talking about long term freezing unless one can expect an ONE HUNDRED PERCENT return of cortical cell functioning. I can tell you from hard experience what kind of reactions you get from relatives, etc....

Now my suggestions are as follows:

- (1) Some means of pumping blood through the brain at a systolic level NOT LOWER THAN 150 MM HG has to be found. It is apparent that the usual pressures produced by chest massage techniques are around 100 mm Hg and this is not enough in many cases. The open chest method did not produce much higher pressures. My suggestion is to use large quantities of a powerful vasopressor like Levophed.
- (2) Huge quantities of Na HCO₃ must be given to counteract the acidosis. The sudden shift in the intraneuronal pH apparently is one of the factors causing the immediate damage seen under electron microscopy.
- (3) Huge quantities of osmotic agents such as mannitol must be used to counteract the cerebral edema, involving the astrocytes and one of the most damaging factors in terms of squeezing off small blood vessels and not allowing blood to flow thru.

These are the main points I want to get across at this time. Once a neuron has undergone any histological change such as we see not only in "one time" arrests, but also in those who survive arrest and die later of something else, it is permanent and to try to hope that someday a scientist will know how to reconstruct this neuron at an atomic level and that then it will also have all the "memory traces" it once had, etc., etc.,...is foolishness. If you are going to have people coming back mentally impaired, then again I say this is foolish and simply not acceptable. ...

Sincerely,
A doctor from Baltimore

NOTE ON THE DR. BLOCK LETTER

We find that reproducing Dr. Block's letter is a larger task than we had anticipated, so we will try to include it in the next issue. Suffice to say for the moment, Dr. Block wonders if some organo-silicon compounds might not work as cryoprotective agents. Does anyone have any suggestions or information along these lines? Dr. Block apparently got good results freezing rat liver cells in dimethylpolysiloxane and would be interested if someone else would check his results.

THE CONTINUED RESPONSE TO PROF. FEINBERG'S ARTICLE IN PHYSICS TODAY

In the November issue of the journal Physics Today, Gerald Feinberg had an article published on the possible merits of freezing humans entitled "Physics and Life Prolongation". It evoked considerable response from scientists, physicians, and others. For those who wish to follow that response it can be found in the "Letters" section of Physics Today in some of the issues up to and including the March 1967 issue.

BOB ETTINGER TO SPEAK BEFORE THE AMERICAN ASTRONAUTICAL SOCIETY

The AAS has invited Bob to give both a luncheon talk and present a paper May 25th at the Sheraton in Boston.

LIFE EXTENSION GROUP MAY BE FORMING IN SAN DIEGO

Mr. Loren Fitzgerald, would like to get some sort of Life Extension group organized in San Diego. It will be a non profit organization especially concerned with the collection, discussion and exchange of information on cryogenic methods toward the extension of life. The group plans to have its first public meeting in June of 1967. Anyone in the San Diego area interested, please call Mr. Fitzgerald at 583-4829.

LOS ANGELES LES MEETING DELAYED UNTIL JUNE.

An LES meeting had been planned for late May but is now scheduled for late June. Call Russ Stanley for details or watch the next newsletter.

ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE TO BE HELD IN WASHINGTON OCT 28TH.

In a previous newsletter requests were made for votes and preferences whether to hold our annual meeting in Montreal or in Washington. Mrs Rynex who gathered most of the votes informs us that by far the greater number of LES members intending to come prefer Washington DC. The preference is apparently based on the practical reasons of less distance and less expense for most of the members.

The October date merely imitates last year's date which was found to be relatively convenient. The main conference, similar to the previous year, will be on Saturday (the 28th) with papers, luncheon, talks, and discussion. Maybe another Chinese banquet as instigated by Gerald Feinberg last year? Sunday will be held open for further visits and discussion if desired. If LES does not have a lab and cryogenic facilities available or in operation by then, a firing squad may be observed in operation early at sunbreak that Sunday morning.

All will be welcome. Do come if you possibly can. But as usual, don't come if it would be dangerous to your health or ruinous to your finances. Last year some members attempted to locate rides with other members from their area at the last moment and found it difficult or impossible to make connections. Arrange for rides well ahead of time.

Even more important, get started reading, thinking, and writing now if we can encourage you to present a paper at the conference. There are a few geniuses who are really expert and can come up with something excellent even at the last moment. But for most of us the better plan is to begin our thinking, writing, or experiments now. The advice expressed in one journal was to write up your paper when you thought you had something worth saying. Then let it sit for two weeks and go back and see if it made sense or if it could be improved. Notify us of what you plan to present. And don't be afraid to present something if you think it conceivably could be a contribution. Send us an abstract, or a summary, or a copy of your paper. This will help with the program.

As usual we do not expect a large conference. However, each nation will be notified as well as as many institutions and individuals as possible. Each year we should see increased interest as the freezing movement tends toward greater practical application.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries or monies of any kind are paid to anyone in LES.

LOCAL WASHINGTON DC LES MEETINGS discontinued until the third Tuesday in September (the 19th) for vacations and to gather our strength for October. --Also, to work on facilities in order to avoid the firing squad.

INFORMATION & HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information, and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. (We hope we haven't overlooked anyone? A few we have deleted for lack of space and phone numbers.) The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. All are LES coordinators or LES officers below except Bob Ettinger who has unselfishly made himself available for the best of advice and help in freezing.

LES WASHINGTON	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East S.F.Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo, N.M.		Paul Mapes
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore,	(301)338-1191	Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Calgary		Gordon Petts
Camp Hill(Harrisburg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave
Caracas		Kurt Bantelmann -message.
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	25 34 69	Prof.& Dott. Giuseppe Valenti,(M.D.)
Chicago	(312)726-3285	Don DeGrazia
Detroit	(313)543-2619	Bob Ettinger. Also LI 6-4012
France		Marc COLLET,54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3107	Michael Griffin, Also 588-3101
Hull, England	48114 Hull	Alan Worsley
Kepong, Malaysia		Ho Sai-Yuen
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Minneapolis	(612)522-9184	Richard Koplou
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)382-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58.22	Françoise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Sweet, Organizing Adviser
South Bend, Indiana	(tel. Book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Petersburg	(813)361-1691	Vicki Gerard
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8947	S.A. Pawlowski
Broomall, Pa.	(215)EL6-0073	C. Leonard Cella

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, DC. 20036



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



"THROUGH THE AMAZING NEW SCIENCE OF CRYOGENICS.... THIS MOUSE AND HAMSTER WERE FROZEN AND SUCCESSFULLY REVIVED." This is the statement on a poster explaining a recent freezing experiment. Dick Nunnamaker, LES member in Youngstown, Ohio, is the experimenter. He performed, photographed, and described his work for this year's Science Fair at Liberty High. His presentation resulted in an article in the Youngstown newspaper and doctors asked if they might to read his complete notes. The following is a report sent in by the author of this suspended animation experiment.

"Cryogenics is the branch of science which deals primarily with the quick-freezing and reviving of organisms, small warm-blooded animals, etc. Temperatures used in cryogenics range from just a few degrees above freezing, all the way down to a -459 degrees F., or absolute zero.

"My project deals specifically with the freezing and successful reviv-
-next page-

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FREEZING EXPERIMENT continued
ing of a mouse and a hamster.

"THE STEPS USED IN THE FREEZING PROCESS ARE AS FOLLOWS:

- 1) The first step was to anesthetize the subject with ether.
- 2) The second step was to coat the animal's body with glycerol (a very effective protective agent which helps to reduce freezing damage to the cells).
- 3) The third step was the actual freezing of the subject with a solid carbon-dioxide (dry-ice) and alcohol solution.
- 4) I checked respiration and heart-beat at different stages of the freezing process. (At one point, I noticed a change in the hamsters heartbeat from about 2 beats every second, to about one beat every 3 or 4 seconds.)
- 5) After the subject's were frozen for the scheduled time (the hamster about 1 hour, the mouse about $\frac{1}{2}$ hour), I began the thawing process. (In the thawing of the animals, I used the heat of two 25-watt light bulbs, as it is very important not to thaw the animals too quickly.)

"After the subjects were completely revived, I watched for changes in either the physical characteristics, or any apparent loss of memory. The only changes I noted in the mouse, were the dehydration of its tail, and certain areas which lost hair. I could find no changes whatsoever in the hamster.

"Since I did not have access to a thermometer calibrated low enough to record the subject's temperatures accurately, I will have to make an assumption as to what the temperatures were at their lowest point. I believe the temperatures to have been somewhere between -25 degrees C and -79 degrees C (the temperature at which dry-ice remains solid).

"In the report I mentioned that the mouse had lost patches of hair. It might be interesting to note that he has since gotten new hair in these spots."

COMMENTS AND FURTHER QUESTIONS BY THE EDITOR:

First, let us all congratulate Dick Nunamaker for all the time, expense, initiative, thought, and effort that went into this fine experiment. Second, let us continue the scientific practice of continued questioning. It is hoped the experimenter won't be offended if we simply question how low in temperature a mouse or hamster can go with present methods and still survive? Dick is careful to claim nothing definite or certain about how low in temperature the animals were taken. Our impression is that mice and hamsters cannot be taken below -5 C for that length of time and survive (by present techniques). However, we would be delighted to learn otherwise. If some of our readers have views or new information on this subject please send it in to the newsletter. For the moment, however, we will assume that neither mouse nor man can survive dry ice temperatures unless the subject is stored at those temperatures, or lower, until such time in the more distant future when repair and revival techniques have been mastered.

CRYOGENIC BANKING OF HUMAN CELLS IN ANTARCTICA SUGGESTED BY DR. HAYFLICK

Dr. Leonard Hayflick, a microbiologist at the University of Pennsylvania has made the suggestion that human cells be frozen, placed in suitable containers, and buried deep in the Antarctic for reactivation centuries hence. Instructions would be included for thawing and starting life again in these cells. Researchers in future centuries might welcome a supply of cells of 20th century man to ascertain what evolutionary changes had occurred.

This Antarctic cell bank suggestion was but one of many made at an American Cancer Society seminar in sunny Palm Beach, Florida and reported in the April 3rd issue of the New York Times.

For more practical use in the near future, Dr. Hayflick also suggested that snippets of tissue be taken from each person at birth and stored at low temperature after preliminary growth in laboratory flasks. The object in this instance would be to have skin grafts available that the body would not reject in the event accidents or burns necessitated graft material.

Several LES members have suggested separate low temperature snippet banks which could aid reanimation of the entire frozen person in a number of ways. Dr. Hayflick, of course, is not suggesting that the individual be frozen and so stored in Antarctica. He is suggesting that tissue sections be so stored. Such a start is most welcome from such an eminent microbiologist. Now, it would be most interesting to find out what is maximum size tissue section that could be stored and reactivated in the future? Is there an absolute maximum size to the sample, that we may say with certainty that future scientists could not reanimate? Or, ridiculous or repugnant as the thought may initially seem, could a person be sectioned, assuming there is a maximum storable section, and placed together again by future researchers who would know how to put Humpty Dumpty together again? If sections of human tissue may be successfully stored frozen in Antarctica, is it conceivable that someday the entire human being may be successfully stored frozen in Antarctica?

TISSUE DEATH BY LACK OF CIRCULATION PREVENTED BY STRESS

Generally we assume that stress is harmful. It is usually difficult to think accurately under stress. Stress can cause ulcers or a mental breakdown. But stress is not all of a piece, and recently Hans Selye, perhaps the world's greatest authority on stress, found that stress under certain conditions prevents necrosis or the death of tissue. Using rats and stress such as spinal-cord transection, motor nerve transection, and the injection of chlorpromazine, he found that skin areas could survive as long as nine hours without circulation. Part of his conclusion in the June 2nd 1967 issue of Science, page 1263 is: "The observations reported here indicate that even the tissue damage induced by prolonged total interruption of the circulation can be prevented by systemic stress." Selye also used cold (9°C) as a stressing agent with good success. The findings of Selye seem to parallel the experiment reported in our last newsletter by a doctor from Baltimore whereby neurons could survive anoxia for at least one half hour under conditions which could be interpreted as stressful. It appears conceivable that with the appropriate stress at death (as strange as that sounds) a longer interval would be available before freezing without the usual cellular damage.

Letters:

(QUESTION: ABOUT THE POSSIBLE USE OF 'POISONS' AND
STORAGE NEAR THE FREEZING-POINT)

Dear Ev,

Do you know if anyone has tested the idea of strongly damping down the metabolic activity of the cells by perfusing, when say a temperature of 5°C. has been reached, with substances that are cell-poisons at ordinary temperatures but which can easily be washed out again when the temperature has risen to say 5°C. in the re-warming? The 'poisons' to be used could not be of the type that changes proteins or destroys molecular structures present in cells, but could be of the type that acts by blocking the enzyme- and other processes of the cell.

As long as the temperature was low enough the inhibitory mixture of 'cell-poisons' could be a real 'witches-brew' as the more of the cell's normal processes that are knocked out the better. To sceptics it could be pointed out that DMSO and glycerol used successfully in preserving bull-spermatozoa, skin-grafts, etc. at low temperatures, would themselves be poisonous to the life of those same cells at normal temperatures.

At a first thought it might be worth including one of those substances that are used for blocking the production of proteins, and that probably includes the enzymes themselves, in cancer-treatment. 6-mercaptapurine is one of these. Cyanide is another possible ingredient but I do not know how easily it would be washed out, as required at reanimation.

If the activity of the cells could be reduced throughout the body by a factor of 100 or more it might then be possible to obtain 'suspended-animation' at much higher temperatures than liquid nitrogen. Even just above freezing-point of DMSO and glycerol solutions, say -20°C., might be cool enough for a few centuries.

As you will appreciate, the great gain would be 'possible suspended-animation without freezing'. I would much appreciate the views you, and others, might have on this possibility, when you have an opportunity of considering it. Those laboratories trying to store organs by freezing may already have tried the idea, however.

With all good wishes,

George Knowles, Stevenage, England

Editor's 'shocked' reaction:

George, I think your suggestion is excellent. After all, Smith and Andjus in their hamster and marmot experiments have both shown best results by beginning with asphyxiating the subject. Selye begins with unusual stress such as cutting the spinal cord, etc. and found a preservative function. Others have suggested high pressures and decapitation. All of these, one would suspect, set up an emergency panic situation in the subject. So, your suggestion of poison seems right in line with the latest research. Of course I'm joking a bit, for I really don't know. But, this may draw attention to the question. Let me urge some of our more knowledgeable readers and researchers to reply to your letter.

Dear Mr. Cooper,

(CONCERNING PUBLIC ACCEPTANCE OF REJUVENATION AND
CRYOGENIC PRESERVATION)

I have been a member of the Society for more than a year now. I believe very strongly in the precepts of the Society although I have made little concrete effort in advancing its cause. I have said in previous communications with you that I feel the greatest obstacle is

-next page-

public acceptance because after we have a large enough number of supporters the mechanics of perfecting cryogenic preservation will only be a matter of time. In this instance time being for us rather than against us.

It must be continually emphasized that the real objective in freezing humans is as said, "a holding operation until aging control becomes a reality." There is not much value in returning to the world of the living if we return as we left, old, infirmed or feeble. The purpose of the Life Extension Society is implicitly twofold, one, perfecting cryogenic preservation, and secondly, rejuvenation. It is easy to write such a large order but quite another matter to fill it.

It is difficult to determine which should receive greater priority. If we examine the biggest of enigmas, public opinion, it might prove easier to win support for sunny, funfilled youth rather than a very cold storage container. But, in the purely scientific realm which objective could be more easily reached - successful freezing or rejuvenation? In any event, it is clear that one should receive more emphasis than the other.

I am a struggling schoolteacher and I would rest easy if one or the other would near fruition in my lifetime. Not so much for myself as in the satisfaction I would feel if a great and monumental cause I believed in became a reality for those that will surely follow.

Any reactions to my comments would be most appreciated.

Sincerely,

Allen Soderlund, Omaha, Nebraska

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VISITOR FROM MALAYSIA COMING TO US AND CANADA

Dr. Retnaraja, an LES member from West Malaysia, plans to see Expo 67 in August or September. He would like to contact LES members or/& coordinators along his route. His most likely stops will be Los Angeles, San Jose, San Francisco, Montreal of course, and possibly Washington.

REPORT ON ELECTIONS

The nominating committee reports that the 1967 Slate of Officers was accepted as presented to the members of LES.

Washington was favored by the majority replying as the site of the 1967 LES conference.

Respectfully submitted, June 20th
Rochel Rynex, Washington, DC.

(We would like to especially welcome Marc Collet as our new Recording Secretary. The title is perhaps a misnomer. European Corresponding Secretary is perhaps more accurate. No matter which title, Marc has given unstintingly of himself, continues to be our prime coordinator in France, and has always provided sympathetic and intelligent support which is appreciated almost more than words can say.)

TWO NEW COORDINATORS FROM TEXAS TO THE ARGENTINE

Mrs. R.C. Philips of Houston, Texas has succumbed to our plea to act as LES coordinator in her area. Her phone number is HQ 8-1559. Any members or anyone interested in LES in the Houston area, please give her a call and let her know that she is not alone with this new idea. She knows that people at a distance are interested, for a TV crew from Belgium interviewed her at length recently about LES and cryogenic preservation.

We are fortunate also to now have Mr. Oswald Elliff as LES coordinator for La Plata, Argentina. Mr. Elliff is a librarian, poet, and reporter. Though only 33 years of age he has already published seven books of poetry. His phone number is 4-5058 La Plata.

CRYOGENIC RESEARCH AND STUDY CENTER FORMING AT STEVENS INSTITUTE

On July 1st a supercold study center will be established officially in the college library, Stevens Institute, Hoboken, New Jersey. The impetus comes from the need to train scientists and engineers in cryogenics and to provide a research center which can gather experts from closely allied disciplines. Cryogenics is basic to both studies and the technology of superconductivity, some types of computers, rocket fuels, space environment, surgery, and cryobiology. In the New York Times report of the forming cryogenic center, they review one of the fundamentals of cryobiology: "Biologists have also found that specimens and tissues can be kept indefinitely in a state of suspended animation at these supercold temperatures." NYTms 5/14/67.

VARIOUS NEWS FROM CALIFORNIA. A FIRM FOR PROFIT REPORTED FORMING.

From a usually reliable source it is reported that persons primarily associated with Cryonics of California are dissatisfied with all present organizational attempts in the area of freezing and storing humans and are in the process of forming a profit making establishment in an effort to achieve the same ends.

Freezing activities seem to be in a lull in California as everywhere for the moment. We are uncertain of when the next meeting is scheduled in the Los Angeles area, but a call to Russ Stanley will provide that information.

A CONTINUING REMINDER ABOUT THE FWR CONFERENCE IN WASHINGTON, OCT. 28TH

All will be welcome. Do come if you can. But as usual, don't come if it would be dangerous to your health or ruinous to your pocketbook. Last year some members attempted to locate rides with other members in their area at the last moment and found it difficult or impossible to make connections. Arrange for rides well ahead of time.

Even more important, get started reading, thinking, and writing now if we can encourage you to present a paper at the conference. There are a few who are really expert and can come up with something excellent even at the last moment. But for most of us the better plan is to begin our thinking, writing, or experiments now. The advice expressed in one journal was to write your paper when you thought you had something worth saying. Then let it sit for two weeks and go back to see if it made sense or if it could be improved. Notify us of what you plan to present. And don't be afraid to present something if you think it conceivably could be a contribution. Send us an abstract, or a summary, or a copy of your paper. This will help with the program.

As usual we do not expect a large conference. However, each nation will be notified as well as many institutions and individuals as possible. Each year we should see increased interest as the freezing movement tends toward greater practical application.

LES MEMBERSHIP AND SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life member \$100. Newsletters go to all members. Newsletter alone \$2. Check preferred. From some areas the amount it would cost LES to send your check for collection should be added. --How do we do it so inexpensively? We all work cooperatively, such as on the newsletter, and no salaries of any kind are paid to anyone in LES.

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LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East S.F. Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo		Paul Mapes
Ann Arbor, Mich	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Harrisburg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	25 34 69	Prof. & Dott. Giuseppe Valenti, (M.D.)
Chicago	(312)726-3285	Don DeGrazia
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
France		Marc COLLET, 54-8osieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hull, England	48115 Hull	Alan Worsley
Kepong, Malaysia		Ho Sai-Yuen
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Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)382-7330	Patricia Gossett
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Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Francaise Coulon
Pittsburgh	(412)563-4633	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
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San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Sweet, Organizing Adviser
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Petersburg	(813)361-1691	Vicki Gerard
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma	()	Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella

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(This is our mailing address above. We are not large enough to have offices as yet.)

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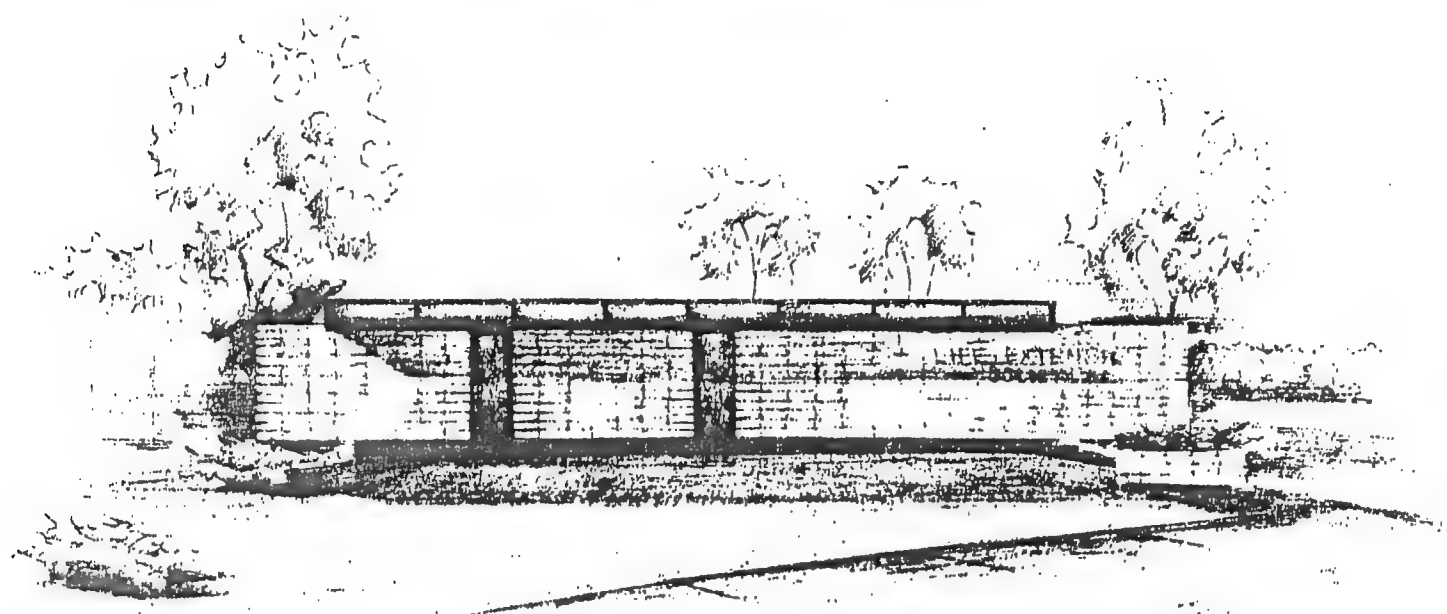


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Proposed Location

LIFE EXTENSION SOCIETY
LABORATORY

DREAMS OF, AND PLANS FOR, AN LES CRYBIOLOGICAL LABORATORY AND STORAGE CENTER. From plans submitted by David Teel of Downey, California.

Contents of this newsletter:

The social aspects and problems:

LES Use Permit Request Turned Down in Fauquier County.
Dr. Brunol, Who Helped Freeze Prof. Bedford, Appeals to All
Who Are Interested in Suspended Animation.
LES Appeals to the Ministers of Health of All Nations.

In and out of the laboratory:

DMSO in the Journals: Science, Cryobiology, and in the
Newspaper, The Oregonian.

Rotifers, Interesting Organisms for Both Aging Control and
Freezing Research. Recent Advances.

Others: Annual FWR Conference, Plans for a Freezing Center In Italy,
Letters, News Notes, Coordinator's Page.

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LES APPLICATION FOR A USE PERMIT IN FAUQUIER COUNTY TURNED DOWN

This is the season for very sad tales of woe from naive and incompetent organizers. The LES proposal and defeat came about in four stages, somewhat as follows.

First stage: A real estate agent calls saying he has just the land for LES, already zoned industrial (industrial zoning usually covers any unusual use), and all we have to do is simply ask for a building permit which is issued as a matter of form.

Stage two: The matter of form suddenly becomes a public meeting with all manner of questions from a seemingly friendly board with an interested journalist in the background. At the same time we discover the land under consideration is actually rural land up for zoning. Later still it was reported to have become industrially zoned land.

Stage three: An article or two are published in local papers. A letter of objection comes in to the papers from a man in a very small village two miles away from the rather isolated land in question. The objection seems to be that LES is a small, slightly suspicious, furtive society, run by questionable people, hiding doctors and scientists who are themselves suspicious because they are reluctant to expose themselves, and, lastly, the society is financially questionable. That LES was to pay cash for land and building (probably a rare occurrence in that county), made no dent. The added suggestion was that if freezing and storing humans was such a good idea, NIH should be doing it. This latter suggestion is an interesting argument coming from a traditionally conservative community which usually decries the government doing everything, laments the loss of individual initiative, individual innovation, etc., etc.

We speculate that the thought never passed the minds of the Board, that an individual, and/or a group so interested, has the inalienable right to experiment. A community should not only not hinder experimenting, if it doesn't hurt others, and if it might lead to the extension of life, but such a community has a positive obligation, if it is intelligent, to promote such experimentation, if nothing more than for its own ultimate welfare.

Last stage: The request to build a laboratory on this rather isolated piece of ground in a farming and woodland area two miles from the nearest village is rejected. The net effect, in this writer's very biased opinion, is that some scientific and social progress has been delayed. It is even possible that some life will not be extended that could have been extended if facilities had been available sooner.

DR. BRUNOL'S REPORT TO SOCIETIES, FOUNDATIONS AND PEOPLE INTERESTED IN 'SUSPENDED ANIMATION'

This is the sad story of a naive scientist who was hoping people would help him to help humanity.

When I started working for the Bedford Foundation (April 1967) my first preoccupation was to prepare a relatively easy experiment which could:

- 1) Amaze people and so enhance the acceptance of suspended animation.
- 2) Bring sufficient donations from people and foundations so that I could engage in more difficult experiments (freezing of mammals) and prepare a pilot plant for suspended animation of humans.

-next page-

DR. BRUNGL'S REPORT CONTINUED

3) Test my method of revival.

The experiment consisted in reviving a dog kept for 12 hours in a freezer at -3°C in supercooled state. This has already been done successfully with dog kidneys.

Money was my second preoccupation. The Foundation claimed of having \$100,000 in probate and promised to keep \$8,000 at my disposal. After signing the contract I found out that the Foundation had only \$3,000. After a first reaction of despair I found ways of reducing expenses. I changed the original plans. A commercial heart lung machine with every necessary equipment would have cost \$15,000. We could not afford it. I had to build and rebuild many times by myself each piece until my home-made heart machine was working properly. I re-examined many times the steps of the experiment in order to assure a success with a minimum number of attempts.

June 15 I was ready for the first trial. Too late! The money had run out. I left the Foundation at the end of June, and I will never go back.

To complete the experiment I would need a minimum of \$5,000. It is nothing in comparison with the millions wasted in the better part of most research laboratories.

This is the last letter I will send begging for help. I do not have hope anymore. Most individuals who have tried to help humanity got back trouble. Why should I be an exception?

My only consolations during these days are:

1) The Public Health Service (see letter included) (referred to articles related to biophysics of the respiratory system. Editor's note) finally cleared 5 of my 10 controversial articles. When I started to work in this field, I soon realized this science was only like a big paper castle built on wrong assumptions passively accepted because they came from established scientists. First I tried to perfect the methods. My methods, according to my systems of testing, were better but still far from sufficient accuracy. Therefore I tried to make scientists aware of our ignorance in this field. You can imagine the opposition! The only result was a rejection of my grant applications. Now the clearing of my articles can signify my studies will be accepted.

However, I am not interested anymore in this field because it would take too long to develop reliable methods. I want to spend my time for something more beneficial to humanity.

2) I have proof that my method of revival is the best now available

Prof. Jankovski, a Russian, using my method of revival, succeeded in reviving without any loss of memory a dog whose brain had been left at normal temperature without oxygen for 30 minutes (no blood circulation). Using other methods of revival, complete loss of memory resulted even after a few minutes of arrested circulation. This is because, according to Jankovski, the damage takes place during revival and is due to abnormal chemicals produced by anoxia. These chemicals, which become toxic when blood circulation is re-established, must be removed by specific methods of disintoxication.

This gave me confidence. My method of revival will be sufficient to disintoxicate the animal from the chemicals used for supercooling or freezing.

Jankovski's experiment proves wrong the assumption generally accepted that 5 minutes is the maximum time the brain can stay without oxygen

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DR. BRUNOL'S REPORT CONTINUED

at body temperature. Therefore, the external cardiac massage must not necessarily start 5 minutes after death as stated in my method for freezing humans.

Scientists were so sure of their assumptions that they did not believe in Suda's theory. Suda revived a cat-brain after 6 months of storage in the frozen state at -20°C . Suda claimed the brain to be as resistant as other tissues. Suda proved that freezing does not cause, as predicted by other scientists, a complete disruption of the cellular structure. This damage was produced by improper methods used by the scientists of the past. Scientists have a tendency to believe impossible what they did not succeed in doing. Jenkovski proved we cannot decide now what future generations will not be able to do.

History teaches that the pessimist scientists of the past were wrong and modern technology achieved far more than foreseen by the few optimistic scientists. We conclude that a human frozen with the best method available has more chances of revival than we had previously thought possible. This is true no matter what scientists claim who are afraid of losing respect of their fellows by being "too optimistic." The majority of cryobiologists already agree that suspended animation will be realized. There is only disagreement about the time of achievement.

Yours,

Dante Brunol, M.D., Pasadena, Calif.

DMSO IN THE JOURNALS: SCIENCE, CRYOBIOLOGY, AND IN THE NEWSPAPER, THE OREGONIAN.

DMSO has had a long and perhaps predictable history as a wonder drug and freezing protective agent. It is said to have first been synthesized by Alexander Saytzeff of Kazan in 1866. There are also some reports of early work by chemists in Germany. Then DMSO relapsed into an anabiotic state, so to speak for almost a century until a German group was assigned a patent in the early 1950's. A few years later one of the managers at Crown Zellerbach suggested that DMSO should have some interesting applications in research. Dr. Stanley Jacobs researched this suggestion and by 1964 DMSO was on its way to becoming a wonder drug. DMSO (dimethyl sulfoxide) had been found to be a pain-reliever, transport other drugs with unusual facility, to counteract bursitis and scleroderma as well as act as a cryoprotective agent. As it was generally considered to be completely safe, a small portion of the public began to use DMSO without physician direction. It would seem as if the Federal Drug Administration was perturbed by this lack of medical control. When a minute few negative reports of DMSO (none of which were ever proven to be true or relevant to humans) reached print in 1964 and when Crown Zellerbach failed to fill in their testing reports completely, the FDA cancelled all clinical tests in the USA. Other nations, apparently less fearful and less controlling of their populace, considered that DMSO was not only harmless but of general benefit and did not place any unusual restraints on its use.

What makes the FDA restriction so unbelievable is that any perusal of scientific journals which report on the use of DMSO indicates that the benefits of DMSO seem to be overwhelming. By now thousands of articles must have been written about the world, nearly all reporting favorably. Yet the power of FDA displeasure is such that when LES sent in for a reorder of DMSO, when our supplies were getting low a year or so ago, the chemical supply house requested we sign a form promising

THE STORY OF DMSO CONTINUED

that the DMSO we were to purchase would not be used on humans or animals! Yet journal after journal had, generally speaking, been reporting most favorably on its use. As an example, Science of 30 June 1967 has an article by Dickinson, Misch, and Drury entitled "Dimethyl Sulfoxide Protects Tightly Coupled Mitochondria from Freezing Damage." They found that their mitochondria provided "a model system for the study of the effects of freezing on biological membranes and of the prevention, by dimethyl sulfoxide, of freezing damage. They also noted, as have several scientists reporting in Cryobiology, that DMSO did not prevent freezing damage when mitochondria were stored at one specific range of temperatures (at or right around -18°C). Both colder and warmer temperatures would be better for longer storage. Strangely enough one of the phenomena of freezing is that certain enzymatic processes proceed more rapidly in the area of -15° to -20°C than at 1°C . The problem appears to be nonexistent at liquid nitrogen temperatures.

In the journal Cryobiology there are so many papers involved with DMSO studies that it would be difficult to count them. It would appear that DMSO is perhaps the preferred cryoprotective agent, though other agents such as glycerol may be superior in certain areas of preservation.

While the scientific journals have been reporting technical success with DMSO, Ann Sullivan, writing for the Portland, Oregon newspaper The Oregonian has researched the more human and social side of the DMSO saga in a long article "DMSO Strong in Europe, But Still In FDA Doghouse." (Nov. 27, 1966) She reports on individuals who are in danger of death or severe crippling that might be aided if they could obtain DMSO. Though the FDA has relaxed their restrictions a trifle, much harm to science and progress may have already occurred. Sullivan ends her article by quoting an evaluation by Barron's, the Nov. 14 issue, in which they say, "Viewed in this light, the medicine men of FDA, all unwittingly perhaps, are angels of death. The 90th Congress should clip their wings."

ROTIFERS, INTERESTING ORGANISMS FOR BOTH AGING CONTROL AND FREEZING RESEARCH. RECENT ADVANCES.

There are at least two basic methods of extending life. One was suggested by John Hunter in 1766 when he suggested that if a man could be stored frozen before the last 10 years of his life, and if that man could be revived for one year each 100 years, that man would have his life extended about 1000 years. A second method is that of aging-control in which one is able to stabilize his functional or biological age over a long period of time. It is seldom that studies in both of these directions can be performed with the same organism in the laboratory. However, the lowly rotifer, a wheel-like micro-organism, may prove relatively ideal.

Heretofore it has been found that the life span of rotifers can be extended four times by continuously selecting the offspring of the youngest mothers of each generation. (See the work of Dr. A.I. Lansing and others.) This is the control of aging in the second sense to extend life.

Rotifers can also be frozen, held in dormancy for long periods, and revived to continue life. This is the extension of life without reducing the normal rate of aging.

In the current issue of Cryobiology (March-April 1967) (they are slower than we are), James Koehler has found that rotifers survive best by slow freezing in a solution of 2 to 3% glycerol. Fifty to sixty per

FOOTNOTE NEWS: LARGE LIQUID NITROGEN REFRIGERATOR -next page-
BY LINDE OR UNION CARBIDE NOW AVAILABLE. COST: \$8000. (See next
SIZE: Outside, 96" by 33" by 44". Inside, 80" by 25" by 26". footnote)

ROTIFERS, AMENABLE TO TWO TYPES OF AGING CONTROL STUDIES -continued
 cent regularly survive this method of freezing. Part of what makes rotifers such an ideal organism is that they are relatively large and complex compared to unicellular organisms. They are a minute step forward toward the successful freezing of organs and eventually man. Rotifers consist of several hundred cells which form themselves into distinct tissues for the various organs similar to more complex organisms. It is thought that if any cells are lost in the freezing process that those cells are not regenerated. This seems to indicate that the freezing process with glycerol is quite successful. Without the use of the cryoprotective agent survival drops to 20% under the most ideal conditions. Dr. Mary Burns, speaking before the current Cryobiological Conference (August 7th to 9th, -to be reported in more detail later) reported that rotifers are not only found in polar and subtropical to tropical regions, but also in the driest of Middle East deserts. After removing them from the desert they survived freezing but not for so long a period as other small organisms.

Apparently rotifers are found almost everywhere, prove fine subjects for anabiosis whether frozen or/and dessicated, and with their amenability to aging control will ^{help} solve the techniques of extending life so men can apply it to themselves.

THE FOURTH ANNUAL MEETING OF THE SOCIETY FOR CRYOBIOLOGY IN WASHINGTON
REPORTS OF FREEZING RESEARCH AND RECENT ADVANCES
DR. MARY BURNS REPORT ON ANABIOSIS SUGGESTS A NEW THEORY OF EVOLUTIONARY DEVELOPMENT OF LIFE

The presentation of the first paper of the conference by the pert, young, sandal and shift clad Dr. Mary Burns began in chaos much as we might expect life itself began. The lights couldn't be found, the microphone hummed loudly, the proper slides couldn't be projected, Mary came forward in her informal garb and began with what appeared to be a travelogue of interesting architecture in the Middle East. All of this was with a background of seemingly almost wholly male conformity. (There appear to be virtually no beards, long hair, or variation in clothing among cryobiologists such as found sometimes at other scientific gatherings.)

If Dr. Burns' presentation began as a travelogue it soon got down to sun, dust, dung, fleas, ciliates, nematodes, rotifers, and out of it all came a few brief words throwing light on a new theory of evolution.

What she found was that the desert habitations, though long abandoned, were rife with micro-organisms. Obviously these organisms had to survive long periods of adverse conditions anabiotically or in a state of dessicated suspended animation. What was new was the richness of detail that she brought out with the amazing array of organisms that survive via anabiosis. Samples of most all these organisms were collected and re-examined over a period of seven years since 1960, the date of the original expedition. But was there something more significant than the mere fact that all these organisms survived heat or cold and dessication? Could it be that evolution of life itself relied on anabiosis?

With the help of a fellow researcher and \$100 she began work in the lab with groups of chemicals which formed increasingly complex aggregates with each cycle of drying and rehydration. They demonstrated to a certain degree that life might have arisen in this manner. The theory is that anabiosis in organisms is a reflection of the same process in aggregating chemicals on their way to forming life systems. Since then

GIANT REFRIG. continued. LIQUID NITROGEN CONSUMPTION: 30 -next page-
 liters per day. (If a liter cost \$1, this would cost over \$1,000 per year. So this is quite costly in comparison to other (see next fnht)

this ability to survive has been lost in most more complex forms. Man especially is beginning to realize that suspended animation is a property most valuable to obtain again. Dr. Burns feels that if the secret of suspended animation is found, it could be of "inestimable value in advancing the science of spare-parts surgical banks, type culture collections, --and deep frozen star-travellers!"

SOCIETY FOR CRYOBIOLOGY MEETING. SHORT NOTES AND FIRST IMPRESSIONS.

The meeting began with the Dr. Mary Burns lecture as described above. The following are some of the highlights as seen from the viewpoint of LES problems, individual impressions, and primarily concerned with the first two days of the meeting, August 7 to August 9. The last day of the conference was primarily concerned with the preservation of blood. A general overall impression of the meeting is that no sensation-ally outstanding achievements or discoveries, such as Suda's before the congress of physiologists in Tokyo in 1965, were presented. This, however, is merely an individual impression, and there remained a host of interesting presentations and many solid scientific advances. The following, then, are merely quick impressions and points of interest. In a later newsletter we will try to present a return look at the conference and perhaps a more balanced view.

THE OUTSTANDING PAPER: From the viewpoint of an LES member, coordinator, and graduate student in biophysics, the paper "Dimethylsulfoxide transport in isolated perfused kidney" by Farrant, Iles, and Pegg was possibly the outstanding paper of the first two days. The objective was to develop methods of increasing the concentration of protective agents in the organ at lower temperatures. A technique was presented in which tracers, a computer, and various stages were used to keep constant what was desired and to find what was biologically relevant to organ preservation. It appeared that a very solid base was made for future studies.

REVERSIBLE DENATURATION OF PROTEINS. Alan MacKenzie in a paper with the title "Viability Assay at the Molecular Level" put across the point that many proteins go "downhill" during freezing. It would appear they are done for. But all hope is not lost. Many, many more than suspected are able to repair themselves upon rewarming. More stress should be placed on possible repair and perhaps less worry about some denaturation.

SUCCESSFUL ORGAN STORAGE. Hamilton and Lehr showed that a dog's intestine could be perfused with DMSO, stored in liquid nitrogen (-195°C) for one week, after being initially frozen with dry ice, rewarmed, re-implanted, and survive.

"MAINTENANCE OF CONTINUOUS CONTRACTIONS OF MAMMALIAN HEARTS AT HYPOTHERMIC TEMPERATURES (20°C)(MOVIE)" The work presented showed how some advances had been made on the old Carrell-Lindbergh perfusion apparatus whereby organs could be kept alive from hours to days. Alexis Carrell and Charles Lindbergh and others helped perfect this apparatus in the late 1920's and early 1930's. The work of Carrell in first third of this century is still held in awe in some circles. Carrel and Lindbergh's good work is continuing. Incidentally, Carrel once said, "Rightly or wrongly, humanity will never stop searching for the secret of eternal life." -- But, probably, what made this paper so interesting is the present human element that Charles Lindbergh is back actively working toward the extension of life. He wasn't observed at the meeting. He probably still likes his privacy and that should be respected. But, it is probably a great boost to cryobiology and the extension of life.

GIANT FREEZER continued. -freezers. This is because in its use in lab the entire top must open. Also for its box shape some insulation efficiency is lost. More on this in a later issue. -next page-

SOCIETY OF CRYOBIOLOGY MEETING continued.

that he is actively engaged in this research. The authors were listed as follows: "Vernon P. Perry, Theodore I. Malinin, C.A. Lindbergh, and Gerald H. Mauer."

MORE ON DMSO AND OTHER PROTECTIVE AGENTS. Armand Karow, who has discussed freezing problems in this newsletter and other publishing organs interested in freezing humans, had two papers at the meeting suggesting that magnesium chloride is less toxic to rat and rabbit hearts than DMSO, in higher concentrations. Others, such as H.B. Barner, continued to find that DMSO was most preservative in their studies ("15% dimethyl sulfoxide (DMSO) equivalent to 13 times the weight of the heart is well tolerated," with higher concentrations not as well tolerated.)

AND ONE FOR THE ROAD As expected, from the accumulation of centuries of common wisdom and previous clinical experience, W.R. Webb and N. Harrison reported that rats survive cooling much better if they are well-swacked (soused) first.

LETTERS & APOLOGIES Our space and time are short. We will not be able to reprint in this issue some sterling letters by Soderlund, Dennis, Sutcliffe, Carter, Cullins, Knowles, Sibley, and Block that we should like to reprint. Apologies and we will try to get to them in later issues. Dr. Valenti also informs us by letter that he and Dr. Finocchiaro, are going ahead with their plans to create a center for freezing and storing humans near Catania. His new telephone number of September 1st will be 22.13.82. John Sutcliffe of Manchester, England has accepted our plea to become LES coordinator for that city.

LES MEMBERSHIP & SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life \$150. FWR goes to all members. FWR alone \$2. How do we do it so inexpensively? We all work cooperatively. No one is paid for their services. No salaries of any kind are paid to anyone in LES.

ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE, SHERATON-PARK HOTEL, WASHINGTON, OCT. 28TH A SATURDAY, A CONTINUING REMINDER.

All will be welcome. Do come if you can. But, don't come if it means wasting your resources and almost killing yourself to get here. Arrange rides with friends or other members well ahead of time.

Even more important, get started reading, thinking, and writing now if we can encourage you to present a paper. There are very few who can produce something excellent at the last moment. One suggestion is to write now, let it sit for two weeks, then go back and see if it makes sense and if it can be improved. Notify us of what you plan to present: an abstract, a summary, or a copy. Don't be afraid to present something if you think it conceivably could be a contribution.

As usual we do not expect a large conference. However, the Ministers of Health of each nation will be informed and invited to send some one. We especially request each Minister of Health to help inform each person in danger of death that if a person is properly frozen at death and cryogenically stored, it may be possible for science to reactivate him for an extended life sometime in the more distant future. Cryogenic (or cryobiological) suspension, then, is a stopgap device for holding a person in complete stasis until aging control becomes practical.

If you intend to come, send \$5 for the cost of conference and lunch well ahead of the conference date. This will help us with our plans.

NEXT LOCAL WASHINGTON LES MEETING, the regular third Tuesday of the month Sept 19th, 7:30pm, Georgetown Public Library.

INFORMATION & HELP. If anyone dying who wishes to be preserved via cryogenic storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. All are LES coordinators or LES officers below except Bob Ettinger who has unselfishly made himself available for the best of advice and help in freezing. (Late note: In San Diego, phone 5834829 info)

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East S.F. Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Alamogordo		Paul Mapes
Ann Arbor, Mich	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Harrisburg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	25 34 69	Prof. & Dott. Giuseppe Valenti, (M.D.)
Chicago	(312)726-3285	Don DeGrazia
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
France		Marc COLLET, 54-Bosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hull, England	48115 Hull	Alan Worsley
Kepong, Malaysia		Ho Sai-Yuen
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)382-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8916	Virginia Tharp
Paris	INV. 58. 22	Francaise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose, Calif.	(408)294-2866	James Lewis
Santa Barbara	(805)965-7393	Marie Sweet, Organizing Adviser
South Bend, Ind.	(tel. book)	Eli Spicer
Spartanburg, S.C.	(803)583-9041	Prof. E. Wesley Walton
St. Petersburg	(813)361-1691	Vicki Gerard
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma	()	Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski
Broomall, Pa.	(215)EL6-0903	C. Leonard Calla

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C. 20036
(This is our mailing address above. We are not large enough to have offices as yet.)



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



*This is AS I wish
to BE "RESTORED."*

I believe it can be done - in time!

Marie's instructions in her own handwriting. She wished to be restored to the way she looked in 1940 and before.

In the 1920's she fought on the side of Margaret Sanger for the rights of women and birth control. In the 1930's she threw herself into the idealistic but hopeless fight against Bilbo, the racist Senator from Mississippi. In the forties she ran for office in Westchester County New York on a democratic platform including greater rights for minority groups. In the 1960's she became active for LES (our first LES coordinator in California) and though a Democrat, she fought tooth and nail against U.S. inter-

MARIE PHELPS-SWEET, PIONEER ACTIVIST FOR JUSTICE AND PROGRESS, DIES AND IS FROZEN IN CALIFORNIA.

Marie once said she always wished to be on the crest of the wave of the future. She was adventurous and progressive to the heart: one in ten million. Direct action for Marie was as inevitable as the rising of the sun.

During the night of August 26-27, Marie Phelps-Sweet (Mrs Russ LeCroix Van Norden), died in her sleep alone in a Santa Monica hotel room. Reports vary why she stopped in Santa Monica instead of going to their lovely home in Santa Barbara. Perhaps she wished to rest from a long hot drive from where her husband was working in Salinas, or perhaps she wished to be convenient to her next project.

A book should be written on all that Marie sparked, engaged in, and carried through.

-copyright 1967-

MARIE PHELPS-SWEET continued.

vention in Viet-Nam.

More sensitive to injustice than most of us, Marie was disturbed throughout her life by the immense moral and physical debt the European invaders and destroyers owed to the American Indian. At the age of 72, or thereabouts, she and her husband made a gesture of repayment by joining VISTA and teaching modern handicrafts to Oregon Indians for a year. Returning from the Warm Springs Reservation she again took up LES work, anti-war activity, and the fight for open housing in California. She thought our war in Viet-Nam was "completely insane...the entire bit." "The funds spent killing people could furnish crash research here and now and wipe out such waste and insane behavior. It's coming, you'll see."

In a short space it is impossible to compress the 74 or 75 years of Marie's activity. NAACP member, helped organize Women Outlawing War, active in Women's Strike for Peace, developed plans for a World Cultural Center, wrote 'volumes' to LES, the list is endless. Is this why she wished an indefinitely extended life to continue her gadfly activities?

With all of her marching, organizing, speaking, teaching, learning, protesting, advising, letter-writing, petitioning, telegraphing, visiting, ad infinitum, she apparently had little thought, except in a minor way, of providing funds or insurance for freezing and storage. Being fearless and an eternal optimist she tended to neglect her own future. It may also be that she wished the proper insurance but could not stand the cost of a policy for a septuagenarian. However, she did declare most strongly her wish to be frozen and carried an LES card stating that desire. She was a staunch advocate of an information file for each member desiring to be frozen and supplied LES with exact instructions on how she wished to be restored in the future.

Both a conflict and an incompleteness of information remains about her insurance. The Santa Barbara News Press carried an article after her death indicating that a \$10,000 policy had been made over to Cryonics of California. In LES records we have two photocopies of a change of beneficiary rider naming LES as beneficiary. The United Insurance Co. of America informs us, however, that her husband is beneficiary but only of an accident and time loss policy that presumably is worthless.

As Marie died unattended a relatively long time elapsed (as much as 72 hours according to one report) before she was perfused and frozen. It would be disingenuous to claim a good perfusion and freezing for time is so crucial. But at least she was frozen and remains so. This is the best that can be expected considering the delay before anyone was informed who was willing to perfuse and freeze her. Thanks go to Robert Nelson, Dante Brunol, M.D., Jeff Hicks and perhaps others for their usual nerve and willingness to perform the perfusion and freezing. Bob Ettinger spent hours on the phone as well as Russ Stanley and Bob Johnson, all helping to notify and facilitate the operation.

Perhaps with wild hope we can imagine that Marie can eventually be rebuilt into a person very similar to her old derringdo self. For Marie to be reanimated as identical to her 20th century self seems impossible because of the information loss through memory molecular disarrangement from delay before perfusion and freezing. The central fact, nevertheless, is that Marie has been frozen. What miracles future science can provide remains to be seen.

The newspaper accounts (Santa Barbara News-Press, Sept 1, and the

MARIE PHELPS-SWEET continued

Glendale News-Press, Sept. 2) and reports from individual members vary considerably. The Glendale paper has a photo purporting to show Marie in a Cryo-Care liquid nitrogen freezer in Phoenix. Others say she is really packed in dry ice in the Los Angeles area. Others indicate that Cosmodyne, a Southern California company interested in freezing, might be willing to store Marie in a liquid nitrogen environment. Others indicate that Cryo-Care in Phoenix is unwilling to accept Marie until Cryo-Care receives some money first. Because of the conflicting reports the newspaper accounts do not seem to be entirely trustworthy. But those accounts are fascinating reading as exercises in publicity at least in part. Some relevant information has been handily forgotten. Marie is not the first woman frozen. To be candid and more complete we must not forget the first woman that Cryo-Care froze and held in that condition for some months before the family decided for some reason to give up hope. Dr. Bedford, the second person frozen in this program, remains frozen with Cryo-Care in Phoenix as far as we know.

The tragic fact of all this conflicting information is that one tends not to trust the information received and this delays action.

For the immediate present we have to assume there is no insurance fund available for Marie's care in spite of newspaper reports to the contrary. We trust, sufficient to say we know, that Russ Stanley has advanced about \$75 of his money for dry ice and sundry expenses.

LES sent Russ Stanley a \$100 check to be used for dry ice. An adopted son of the Van Nordens gave \$200. Mr. Coco and Miss Kline contributed also.

If anyone reading this newsletter wishes to make a contribution to Marie's care, you can send it to Russ Stanley, LES coordinator, 1515 Sargent Place, L.A. Calif., 90026, or to LES Washington with instructions for its use. Russ is in accounting work with the Santa Fe Railroad and in our experience has been the essence of reliability. In the event your contribution is not used it will be returned to you. -- The problem, of course, is that dry ice may suffice in the short term and is infinitely better than nothing, but for the long term some method of liquid nitrogen freezing should be arranged.

OUR VALUED TREASURER, BILL ALBAUGH, RESIGNS

The death of Marie Phelps-Sweet and the increased pressures it brought upon our Treasurer, Bill Albaugh, are probably responsible, at least in part, in leading him to resign that office. Bill is concerned that LES does not have sufficient income to meet all possible rising expenses in the future. In spite of having an unusual amount of cash in the bank (a generous loan for facilities made available by an LES member at an extremely low rate of interest), he still wishes we were on a more secure and safe foundation which covered all contingencies. Whether the problems are large or small, the office of Treasurer has been a task that Bill has performed punctually, competently and with absolute reliability. This burden and a possible worry added to all of life's other risks was just one too many. We don't know how to thank Bill for his past help. He is even willing to help in the future, but he doesn't wish the responsibility of being officially listed as Treasurer.

Dear Ev,

Since I have little time for serious reading on the technical side of cryogenic anabiosis, I have been thinking about ways to alert strangers to one's desire for freezing, in the event of an accident away from friends. This is a central problem, since so many of us commute to work, vacation, and run shopping errands--all of which place one in an environment of people who probably know nothing of "freezing", much less that I or you personally desire to have it carried out. And, after any fatal accident, those same people will hold your future in their hands. Thus the need to inform them--and quickly--of your desires; and with the least degree of chance possible. If one is successfully revived years hence, the greatest danger to life will probably be the capriciousness of accident. A revived individual would probably take elaborate precautions against accidents of all sorts--and from his point of view, the most dangerous part of his life--the part most vulnerable to accident--would have been his "first life." Partly because of the primitiveness of our technology, partly because of the pervasive attitude that "you're going to die when your time comes anyway"--which in the extreme creates racing drivers and Marines, I submit that when the validity of anabiosis becomes widely accepted, a contrary attitude will set in--"no chance is worth it, if it risks my immortal life"--and in its extreme, will also produce "disciples".

The best system would be to use a wallet "freeze card", Med-Alert necklace, wrist I&D with a Med-Alert medal soldered to it, and a tattoo on the hands, and/or neck, and/or face. (The only body surface sure to be noticed is the face and perhaps the neck and hands. However, social considerations in most cultures argue against putting anything on the face. To this objection I really have no satisfactory answer. But for those who weigh life above social consideration I do have an idea. A small ($\frac{1}{4}$ inch diameter) Med-Alert design can be placed on the side of the neck in the form of a tattoo, which is a routine medical practice, administered by a doctor.

Concerning the "freeze card": A realistic look at human nature might dictate the inclusion of a sizable reward notice in the message since 1) you want to be as sure as possible that the notice will not go unheeded, and 2) you may be found by that type of person who would not be moved by altruistic motives, but would be moved by financial ones. Realize too, how the idea of helping the "dead" is quite alien to the average man in the street, and how much "meddling" might offend his conventional thinking. A sizable "bribe" has often been known to change, or "suspend" thoughts...

...
In my last letter I tried to make sure others knew that freezing was desired. The intensive care unit of one of your D.C. hospitals has given me an idea. There, a patient's condition is monitored constantly by electronic devices of divers sorts. And one can no longer die there and just lie waiting for an hour or so. If it can be done for the sick patient it can also be done for the active person.

I envision a small unit worn on the belt (say, in a glasses case, the sort which a belt slips through) that contains A SMALL RADIO TRANSMITTER AND BATTERY-POWERED AUDIBLE-FREQUENCY ALARM. There would also be in this system (call it a Life Monitoring System -LMS) a wire, worn under clothing, leading up to the chest, where a thin pleated rubber tube would circle the body, expanding as one breathes, and supported by 2 shoulder straps. I'm no expert in electronics, but a system could

-next page-

HOW TO ALERT PEOPLE AND THE LIFE MONITORING SYSTEM -continued

surely be devised to monitor 1) the pressure change within the tube or 2) the changes in wall-to-wall distance within the tube. Perhaps micro-switches within the tube could be divided into 2 sections; $\frac{1}{2}$ activating a circuit in the radio-alarm case when inhaling (closing the switches by compression of tube walls) and the other $\frac{1}{2}$ activating a circuit when exhaling.... If the 2 sets of chest microswitches do not each close in a 1 minute interval, 1) a radio signal is sent to a receiver similar to those used to page doctors. The radio frequency would be monitored 24 hours by an answering service (or rescue squad?). 2) The audible-frequency siren goes off, ^{bringing aid} and once the case is unsnapped (by your discoverers trying to turn off the blasted alarm) reveals a notice directing them to begin immediate resuscitation, or failing that, perfusion and freezing.

I chose breathing as a life indicator, since temperature is too slow, and heartbeat too difficult to monitor. But there may well be better indices -- e.g. bloodpressure, GSR, muscular tenor (tonic activity). Of course, you would also want to know if your LMS was not in radio contact with the receiver, which can be accomplished easily. The constant receipt of a single frequency tone by your case would close off the alarm circuit, and an interruption or fade-out due to distance would allow the circuit to operate, sounding the alarm and notifying you of the breakdown. Incidentally, if you were in an isolated area, you could always be found by a radio fix.

A drawback is that widespread use of such a device, or advanced LMS implanted in the body (similar to Dr. Delgado's stimiceivers), paves the way for population control by a government interested in monitoring the radio waves. This keeping tabs would be easy enough, since 190 million citizens are soon to have far more data on themselves than mere location, fed into the National Data Center.

Cordially, and Endless best regards,
Kenneth Carter, Norfolk, Virginia

Dear Sirs:

APATHY MUST BE COMBATTED WITH FERVOR & REASON

...I did not respond to your previous notification of money due because I was not working, and after all, isn't L.E.S. just a petty indulgence, a two dollar sophism? Why, two dollars can get you a six-pack of beer plus change! WOr get you a half-decent movie theater for an evening of luke warm (preponderantly) evening of what?

Good grief! Does membership in the human race also entitle you to a generous portion of stupidity? I'm trying to wake up now.

I'm trying to remember that a mature sentient being should arrange the priorities of life and act upon them with logic.

We live in a constant half-dream because certain realities are very, very unpleasant. My God, I would relish a thousand years just to grow up in. But you have to worry whether the ten years that just disappeared were a good investment or a sick joke.

With exuberant Life dreams and conceptions and sensations beyond the scope of our mind/experience may be waiting for us--hell! Something is waiting for you, if you really want to see what calls to you.

Let the audacity of life fade and rot . . . and it's gone! And Time has no instant re-plays. My verbosity can be distilled to the concept you probably already have had-- that the apathy-ignorance-fear that

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APATHY-IGNORANCE-FEAR MUST BE COMBATTED WITH FERVOR AND REASON continued

seeks to drown this idea, must be combatted with fervor and reason.

People have to be faced with their own mortality until they are both angry and afraid. We're all on death row! But our executioner is masked by time. And we all create a personal fantasy to mute the instinct of terror. We cling to the gambit of involvement to the exclusion of insight. ...

I took a radio continuity class (as a broadcasting major) and a class in radio sales in college and realize that some of the principles that apply to getting a person interested in a longer cigarette could also be used to get a member for L.E.S.

I realize that this letter is an organizational disaster, but if I tried to compose a well ordered letter you would never even get a 'Hello-goodbye' out of me.

Let's wake this country--this planet--up!

Sincerely alive

Terry Olwell, Sunland, California

Dear Ev--

ETTINGER'S NEWS OF PUBLISHING, BROADCASTS, MEMBERS..

...I understand the following articles are forthcoming:

True, October, Wilkinson's article.

Christian Century, sometime soon, my article, "Cryonics and the Purpose of Life".

One of the Galaxy magazines soon--perhaps the current issue of If--my article, "Interstellar Travel and Eternal Life".

Cryogenic Engineering News, September, cover story on freezing.

The Tonight show plans to replay the Feb. 22 show on Sept. 10(?) discussing the Bedford freezing.

The Cryonics Society of Michigan now has 40 members.

The Italian edition of THE PROSPECT OF IMMORTALITY has been published finally by Rizzoli, under the title Ibernazione Nuova Era.

Best regards--

Bob Ettinger, Oak Park, Michigan

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REMINDER OF THINGS TO DO THAT MIGHT BETTER INSURE A PROPER FREEZING

1. LET IT BE KNOWN to your relatives, persons concerned, coworkers, and friends that you desire to be frozen --should that fatal event occur.
2. Make out your will. Make out affidavits, should they be necessary, which indicate next of kin, or those concerned, understand and agree to your desire to be frozen.
3. GET THREE FRIENDS, if possible, in your area who will see to it that you are frozen in event of death. If possible locate a competent and willing doctor to aid or perform the perfusion and freezing.
4. OBTAIN ANY TYPE OF INSURANCE from any company or institution that will pay five to ten thousand dollars, or the equivalent, at death.
5. USE SOME MEDICAL ALERT SIGNAL DEVICE or devices such as: Freeze card in wallet. Brief instructions handy (newsletters #17 & 33). Medic-Alert bracelet or tag. (See FWR #29, Nov. 1966 for Medic Alert offer)

ROUGH DRAFTLIFE EXTENSION SOCIETY FINANCIAL STATEMENT

September 1, 1967

ASSETS:

Petty Cash	\$	12.00
Bank Bal.		302.69
Savings		18,391.28
	\$	<u>18,705.97</u>

Less:

Advance by the president		258.90
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Total Net	\$	<u><u>18,447.07</u></u>
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LIABILITIES:

Interest Payable	\$	311.12
Debt 5% Loan		16,000.00
LES Capital		2,135.95
Total	\$	<u><u>18,447.07</u></u>

PROFIT & LOSS STATEMENT

For Period from Sept. 30, 1966 to Aug. 31, 1967

INCOME

Dues	\$	824.24
Subscrip.		145.00
Donations		865.32
Interest		192.28

Total	\$	<u>2,026.84</u>
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Less:		<u>1,951.94</u>
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Net. Inc.	\$	74.90
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Assets on 9/30/66		<u>2,061.05</u>
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Assets on 9/1/67	\$	<u><u>2,135.95</u></u>
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EXPENSES

Office Sup.	\$	214.74
Postage		492.99
Research		170.29
Advertising		16.28
Printing		445.03
Interest Pay.		311.12
Annual Conf.		188.81
Misc.		112.68

Total	\$	<u><u>1,951.94</u></u>
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Note: LES Capital or Assets include several life membership liabilities. The president advanced cash to facilitate purchases of dry ice, electricity on freezer experiment, and postage. Misc. expenses include \$20 Legal Fee on land contract and \$65 for meeting held by Mr. Hart.

LES MEMBERSHIP & SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life \$150. FWR goes to all members. Subscription alone \$2. How do we do it so inexpensively? We all work cooperatively. No one is paid for their services. No salaries or monies of any kind are paid to anyone in LES.

NEXT LOCAL WASHINGTON LES MEETING, the regular third Tuesday of the month, Sept 19th, 7:30pm, Georgetown Public Library. AT the Sept 19th meeting it will be decided whether to have an October 17th meeting at the library or whether the annual October 28th meeting will suffice.

SCIENCE NOTE, SOME OF THE EXTREMES IN THE EXTENSION OF LIFE

A Harvard paleobotanist, Dr. J. William Schopf has discovered that life existed on earth 3.1 billion years ago with the same amino acid building blocks as today. He pulverized 3.1 billion year old chert, put it through an amino acid analyzing machine and located evidence of 22 amino acids (New York Times, Sept 5, 1967, page 35)

Algae and bacteria left fossil records of that same age, but until Schopfs experiments it wasn't known whether or not they were made of the same building blocks. It is a heady discovery indeed that some of an organism's molecular architecture could survive such a period.

To better understand the extension of life and some of its possibilities through time, it behooves us to know something of the current limits. Perhaps we can list a few of the records and ask our readers to add to them or update them. Here we will be primarily interested in those extremes which might have some bearing on anabiosis.

The greatest extreme period of anabiosis for any organism is said to be 300,000,000 yrs for bacteria which have lain dormant in salt deposits. This is the work of Dr. H.J. Dombrowski of Bad Nauheim, Germany.

Bacteria and other microorganisms have been reported to survive 50 years of Antarctic freezing. (Nature 196:598) It is wondered why we do not have survivals from ice for longer periods? Seals (with no expectations of reactivation) have been frozen in Antarctica for over 2500 years. If bacteria can survive hundreds of thousands of years in cool salt deposits, they should be able to survive longer than 50 years in Antarctic ice.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain from his work. All are LES coordinators or LES officers below except Bob Ettinger who has unselfishly made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick

-continued next page

Alamogordo		Paul Mapes
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich	(313)761-4016	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.13.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2019	Bob Ettinger, Also LI 6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48115 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Malaysia		Ho Sai-Yuen
La Plata	4-5058	Oswald Elliff
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)464-1591	Jim Clancy
Moscow, Idaho	(208)352-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Francaise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 (This is our mailing address above. We are not large enough to have
 offices as yet.)

YOUR INVITATION TO:

THE FIFTH ANNUAL FREEZE-WAIT-REANIMATE CONFERENCE
SHERATON-PARK HOTEL, WASHINGTON, D.C., SAT.OCT.28

9:30am
to 4pm

This meeting will be our 5th annual conference on the freeze-wait-reanimate hypothesis. This hypothesis claims that if a person is properly frozen at death and cryogenically stored, it may be possible for science to reactivate him for an extended life sometime in the future. Cryogenic suspension, then, is a stopgap device for holding a person in complete stasis until techniques for reactivation from the frozen condition and aging control become practical.

The experimental basis for the idea can be found, for example in Prof. Suda's experiment (Nature, Oct 15, 1966), in which the brain of a cat has been frozen for over six months and restored to activity.

The freeze-wait idea has been gaining support. Our society has grown to over 800 members and subscribers. Two persons are now in the frozen state. Without doubt others will follow. Is it conceivable that you might wish to try to get into future ages by this route? Come to our conference and learn more about what is almost unbelievable now but what may be commonplace in the future.

ANYONE FROM ANYPLACE ON THE PLANET WILL BE WELCOME. Though this invitation will go to all countries, do not expect a large elaborate conference. It will be a relatively small gathering to exchange ideas, information, and plan for the future. DO COME IF YOU CAN. But don't come if it means wasting your resources and almost killing yourself to get here. Arrange rides with friends or members well ahead of time.

THE CONFERENCE WILL CONSIST of speeches, papers, luncheon, and discussion as usual. Leaders, thinkers, researchers, and activists in the movement will attend. The conference is open to short papers on any topic relevant to freeze-wait-reanimate. Don't be afraid to present something you consider a contribution. Notify us with an abstract, a summary, or a copy. (Sun. the 29th is open for visiting, discussion.)

To help us make arrangements, fill in the form below and mail immediately. (It may cost more at the door.)

☐ I accept the invitation to the Fifth Annual Freeze-Wait-Reanimate Conference at the Sheraton-Park Hotel, Washington, October 28th.

☐ Number of reservations (\$5 per person) This includes luncheon.
A check preferred, made out to the Life Extension Society.

Name _____

Address _____

(Rooms will normally be available at the Sheraton-Park on arrival. Throughout the city rooms are expected to be in good supply.)

Please mail check and form to:

LIFE EXTENSION SOCIETY
2011 "N" Street N.W.
Washington, D.C. 20036

-international- -scientific- -nonprofit- -incorporated for service-

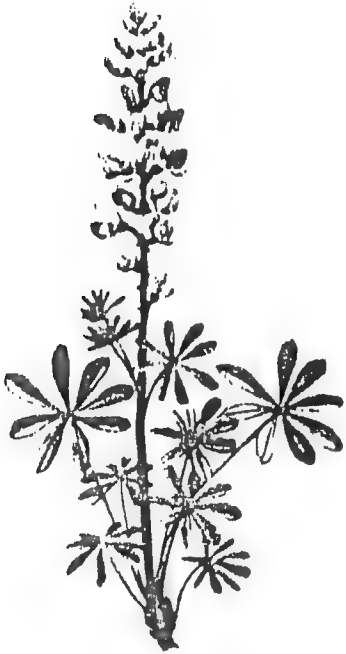


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



ARCTIC PLANTS GROWN FROM SEEDS IN SUSPENDED ANIMATION FOR 10,000 YEARS

Shortly after asking in our previous newsletter for record extensions of life, we find that Porsild, Harington and Mulligan report the successful growth of arctic lupine from seeds approximately 10,000 years frozen. Their report can be found, with a photograph of one of the plants that bridged the time gap between the Pleistocene age and our own, in the current issue of Science (6 October 1967).

That a seed can lie dormant for 100 centuries then return to life and flourish is a fact to ponder and gives hope to humans to attempt something similar.

This discovery began with the observation and curiosity of Harold Schmidt, a mining engineer in the Yukon. Placer mining cut through Pleistocene deposits where he found lemming burrows with the stored seeds. A landslide may have killed the lemmings and allowed the establishment of permafrost which lasted over 10,000 years.

Schmidt mentioned his find to a number of people but no one was interested. In 1966 a National Museum of Canada staff member heard of the seeds, obtained samples, germinated six into healthy plants, observed them for almost a year, and reported the discovery to Science.

-continued on page 2-

-copyright 1967-

LUPINE SEEDS GROW AND BLOOM AFTER 10,000 YEARS IN PERMAFROST continued

Can we feel reasonably sure that these recent reports are true? Professors of botany such as C.L. Wilson and W.E. Loomis of Dartmouth and Iowa state in their text:

The periodic reports of the germination of wheat or peas from Egyptian tombs, of corn from Indian burial mounds, and of other seeds of great antiquity have never been verified by qualified investigators, and one should be skeptical of them. (Botany, Dryden Press, N.Y. 1957)

Let us keep the warning in mind for there are both mistakes and the perennial excesses of enthusiasm. However, the Science report appears most convincing. Carbon dating of similar Pleistocene deposits indicates an age of 14,000 years. The bones of extinct bison have been found in these same Yukon deposits. The collared lemming whose bones were found with the seeds no longer lives in the area of the discovery. The climate began to change about 10,000 years ago and the lemmings probably began their move to higher ground. The number of chromosomes is double that of most other lupines which remains puzzling.

The authors suggest that other seeds and spores may have been released from their 10,000 year slumbers by placer mining. They further suggest that carefully dated cores of permafrost deposits be tested for viable seeds and spores. It seems obvious they should look even further for evidence of still viable bacteria, rotifers, etc. The reports of Mary Burns (noted in FWR 37) indicates there is much more ancient life in an anabiotic state, dried or frozen, than we have imagined. If, as Dombrowski has reported, bacteria have been stored for hundreds of thousands of years in salt deposits, and remain revivable, then surely Pleistocene deposits should bring forth a few bacteria from from that age.

Porsild, Harington and Mulligan also review the scientific record for the longevity of seeds in suspended animation. They appear to accept the claim that many common weed seeds have remained dormant yet capable of further life for as long as 1700 years. The record previous to their 10,000 plus lupine seeds is considered to be two thousand years for the seed of the sacred lotus embedded in a peat bog. They add that if such a latent period is possible in unfrozen peat then it is quite reasonable that freezing could extend the period of latent life indefinitely.

TWO DOGS LIVE AND PLAY OVER A YEAR AFTER TRANSPLANTATION OF HEARTS

At the recent annual meeting of the American College of Surgeons, Dr. Richard R. Lower of the Medical College of Virginia reported and showed motion pictures of two dogs surviving at least 15 months with hearts not their own. There seemed to be no physical impairments. One of the dogs had even given birth to puppies. This is the result of eight years of laboratory work and many failures. Dr. Lower has no doubts the same can be done for humans.Minus the puppies, of course.

OCTOBER 28TH CONFERENCE CANCELLED

...Due to circumstances within our control, but quite unexpected nevertheless, and overwhelming, the Annual FWR Conference in Washington will be cancelled.

What reasons, good or bad, significant and superficial, serious and farcical, are adduced for the cancellation?

The main reasons came to the fore with the death and freezing of Marie Phelps-Sweet. First, an unexpected increase of mail came, much of which remains unanswered and a corresponding backlog of office work has accumulated. Second, a very nasty letter was received from a usually respected authority in the freezing movement accusing the President of LES of poor judgement, bad motives, stupidity, irresponsibility, etc., etc., --a letter that a paranoid would consider a veiled threat. Third, the death and freezing of Marie Sweet apparently led to emotional strains and excesses. These will perhaps soften and cool in time. (On the other hand, think what could happen in the future when many freezings take place in a short period of time under less than ideal conditions?)

Fourth, the recent resignation of our Treasurer poses a replacement problem as well as minor items in our structure need tightening.

Fifth, and most important, we need facilities. As much as 5 days a week has been spent on this seemingly endless activity of evaluating land, talking to contractors, architects and others. This leaves little time for all the other work not to mention time for setting up a conference properly.

The Chinese peasants have a saying to the effect that a man is foolish to lift a stone just to drop it on his feet. Considering the criticism and the really mandatory tasks before us, it is better perhaps that we get our own house and operations in order, and carry out the conference at a later date.

LETTERS

As usual there are many letters that need reprinting. However, to get this newsletter in the mail in plenty of time to notify people of the cancellation of the conference, it will be an abbreviated issue. Two letters, at least, should be mentioned, one of which enclosed a will form which we will attempt to reproduce.

The first letter is a long one from Russ Van Norden with many helpful suggestions. As a matter of first priority he suggests that the freeze-cards be increased in size ("a stiff fold over card 2 1/4 X 3 7/8"), color should be used, and the format and wording altered to gain attention. The stress would be on who to call, with alternative numbers, and who to notify (three people suggested). "NO AUTOPSY" would be placed in large letters below the brief general instructions. For those who would care to, the present cards could be enlarged with a border with additional information on that border, and the enlarged card encased in plastic. Russ also urges all of us to help arrange things so Marie can be placed in a permanent capsule where she will be safer than in the present dry ice storage.

The will form is from Norman Swenson. He claims no more than it is a rough sample which he has been assured is legal in Massachusetts. He hopes it can be made acceptable for general use. He suggests in addition a form for a wallet card -freezing card-, a form for a medic alert device, the word "REWARD" displayed on the freeze card and medic alert device, and lastly a form to be sent to the society concerned, such as LES, that the holder has a \$10,000 life insurance policy.

LES MEMBERSHIP & SUBSCRIPTIONS. Students \$1. Regular \$2. Contributing \$5. Life \$150. FWR goes to all members. Subscription alone \$2. How do we do it so inexpensively? We all work cooperatively. No one is paid for his services. No salaries or moneys of any kind are paid to anyone in LES.

NEWSLETTERS & MAILING DATE. Currently 1000 FWR's are published monthly. The regular mailing for this issue is scheduled for Sunday October 15th.

NEXT LOCAL WASHINGTON LES MEETING.. Third Tuesday, November 21, 7:30pm., at the Georgetown Public Library.

NOTE ON ARCTIC LUPINE ILLUSTRATION ON PAGE ONE The illustration is not arctic lupine (*Lupinus arcticus*) but the very closely related wild lupine (*Lupinus perennis*). The leaves appear the same but the flower of the wild lupine apparently differs rising higher through the plant.

CHOLESTYRAMINE, A DRUG SHOWING UNUSUAL PROMISE. Dr. Fuson, representing Duke research team, reported to the American College of Surgeons early this month that cholestyramine drastically and safely cuts a person's cholesterol level. Dr. Fuson's level was reduced from 250 to 40 (the level of a new born baby) and he lost 25 pounds over a three year test. Limited clinical testing is now taking place.

WOULD YOU BELIEVE A LITTLE GRAFFITI IN THE NEWSLETTER?

Death is Nature's way of telling you to slow down.

If you can keep your head when those about you are losing theirs, perhaps you've misunderstood the situation.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. This month we feel fortunate in being able to list below our first coordinator in Africa -Mr. Louis. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, moneys, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger who has unselfishly made himself available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East SF Bay)	(415)837-6017	Mrs Harvey DeCovnick
Dimbokro(Ivory Coast)		P.D.L. Djoman Louis
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
Sunland, Calif.	(213)353-3134	Terry Olwell.

(continued on the last page)

WILL of _____ (name of person)

Be it remembered that I, _____ (name of person)
of _____ (address or & city), being of sound mind
and memory, to make this my last will and testament, hereby revoking
all former wills by me at anytime heretofore made.

1. I direct that all my debts, including my freezing expenses,
expenses of my last illness and the expenses of the administration of
my estate, be paid by my executor, herein after named, out of the first
moneys coming into its hands and available therefore.

2. I own a \$ _____ (amount) Life Insurance Policy with the
_____ (name of life insurance company),
_____ (address of company), which is payable to
_____ (name of whom it is payable to) for freezing.

3. I give, devise and bequeath the sum of \$ _____ (amount) to
be placed in trust for storage, maintenance and eventual reanimation
when it becomes a safe procedure and life would once again be reasonable
and desirable.

4. All of the rest of my property and estate (real, personal or
mixed), I hereby leave in the following way:

5. I hereby nominate and appoint _____
_____ (name of person appointed) the executor of this my
last will and testament.

6. In testimony thereof, I hereunto set my hand and in the
presence of three witnesses declare this to be my last will this day of
_____ (date).

(signature of
person making will)

On this _____ day of _____ (month) of A.D. _____ (year)

_____ (name of person making will), of
_____ (name of city or address), signed
the foregoing instrument in our presence, declaring it to be his last
will: and as witnesses thereof we three do now, at his request, and in
his presence, and in the presence of each other, hereto subscriber our
names

_____ (first person)
_____ (second person)
_____ (third person)

NOTES: Optional, applies in Massachusetts and some other states: No
person who is to receive anything under a will, and no husband or wife
of any such person, should be a witness to such will. But a person is
not rendered incompetent as a witness to a will by the fact that he is
named herein as executor. (File copies of your will at the local court
house, the society concerned with your freezing, and with your lawyer.)

Alamogordo		Paul Mapes
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife
Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message
Broomall, Pa.	(215)EL6-0003	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.13.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48115 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Malaysia		Ho Sai-Yuen
La Plata	4-5058	Oswald Elliff
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)382-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Francoise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Swansea, G.B.	50989	Gerald Evans
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 (This is our mailing address above. We are not large enough to have
 offices as yet.)



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

DR. BRUNOL OFFERS TO FREEZE A PERSON IN NEED OF FREEZING ANYWHERE, BUT SUGGESTS LOS ANGELES AS THE BEST AREA

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Information and Help

Dr. Brunol, the person who helped perfuse and freeze Prof. Bedford and Marie Phelps Sweet, has issued several reports to people and societies interested in suspended animation. This newsletter printed his previous report in the July-August issue, and an even earlier report in this year's March issue. We will reprint the latter part of his report, the part which is especially new, and review the first part, because our space is limited.

"Is Suspended Animation a Crazy Dream?"

This is the question people ask of Dr. Brunol. His answer is that of course it is not a crazy or foolish dream. The experiments of cryobiology, Suda and Jankovski especially, indicate that it can be done. Financial support for experiments, however, has been meager.

The following is the latter part of Dr. Brunol's report including his letter.

WHAT'S THE PURPOSE OF SUSPENDED ANIMATION?

1. Most gerontologists agree the life-

-copyright 1967-

span of humans will be increased to 200 years in the near future. Organs damaged by senility or disease will be substituted. Most gerontologists agree rejuvenation of old people will be possible.

2. Human in suspended animation will be revived when
 - (a) a method for revival of human is available,
 - (b) a cure for their disease is found.

WHY WILL PEOPLE ACCEPT SUSPENDED ANIMATION?

1. Many hate to have their bodies destroyed by putrefaction. They would like their body to be preserved and seen by their descendants.
2. Many hope that future generations will be able to revive their body, even if some damage occurred during freezing.
3. Many, when near to death, need to believe there is still a chance of survival by means of suspended animation.
4. The most important religions are not against suspended animation. God is not in a hurry to judge us.

WHEN WILL SUSPENDED ANIMATION BE ACCEPTED BY THE MAJORITY OF PEOPLE?

1. When the facilities are easily available.
2. When some amazing experiment will impress the people.
3. When intelligent advertisement takes advantage of the human compulsions.
4. When a sufficient number of people will be frozen. The others will follow, as it always happens with new fashions or new customs.

There are chances of survival for people who choose to be frozen.

If the body is destroyed by burial there are no chances of survival.

If you are frozen with an improper method as that described in True magazine, October, 1967, you have very few chances. I cannot exclude a revival, but it is improbable since the DMSO cannot reach the cells in sufficient quantity and a disruption of the cells should be inevitable.

If you are frozen with the latest of my methods (with a heart lung machine) in theory you have a good chance. Anyway, only animal experiments can tell whether my method is safe and how to improve it.

When I find financing, a few experiments will be sufficient to improve the method and make the chances of survival much better.

WHAT TO DO IF YOU WANT TO BE FROZEN

1. Do not wait for the last week. Decide now. Dr. Bedford, the first man who has been frozen, has few chances of revival. I only had a few days to prepare the equipment for the freezing. Therefore, in my opinion, the method used for Dr. Bedford was very far from being satisfactory.

Mrs. Sweet also has few chances. She was frozen three days after death. Too late, in my opinion, even considering the new view deriving from Jankovski's experiment.

2. If you wish I can perform the freezing. But you should pass

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BRUNOL: WHAT TO DO IF YOU WANT TO BE FROZEN. continued

your last days here in Los Angeles, where you could have proper care and the equipment could be kept ready. If you wish I could perform the freezing anywhere. But, in this case your chances would not be as good since I could not bring all the equipment with me.

3. Some organizations asked \$20,000 for freezing and perpetual preservation. Do not waste your money. They do not have any know-how. \$5,000 is more than sufficient for covering even the expenses of revival.

4. If your doctor is willing to perform the freezing, I will be happy to give him all possible information.

5. I repeat: make all arrangements right now.

-Dante Brunol, M.D.

DR. BRUNOL'S ACCOMPANYING LETTER

I am doing research on suspended animation at the Rancho Los Amigos Hospital.

The financing of the federal government for suspended animation has been interrupted because of the Vietnam war. I desperately need help, not for myself, but for my expensive research. (In 1967 I took home less than \$4,000 in salary.)

Within the next few years, instead of being buried, people (especially children affected by incurable diseases), may be frozen with special methods which permit the revival in the future. Suspended animation will become a booming business.

Suspended animation will cost approximately \$4,000, of which \$500 will go to the family doctor who fills out the clinical-history form, \$500 will go to the team performing the scientific freezing, \$500 will be for the religious funeral, \$500 for the funeral home, \$1,000 will be invested at 5% to secure perpetual preservation and revival, \$1,000 will be for the purchase of the storage place. A special insurance policy will cover the cost.

Professor Suda of Japan revived a cat-brain after 6 months of storage at minus 4°F.

I am learning little by little how to revive supercooled dogs. I expect a complete success within the next 4 months if financing is sufficient. At that time, the list of donors will be given to the press. After this I will engage in ultra freezing of dogs.

If you want information about the present state of this art, the feasibility of suspended animation and the names of scientists who approved of my project, mail the enclosed self-addressed envelope.

Please make a check payable to:

Rancho Los Amigos Hospital-Attending Staff Assoc., Inc.
(Grant to Dr. Brunol)

and mail it to:

Rancho Los Amigos Hospital-Attending Staff Assoc., Inc.
12826 Hawthorne Street, Downey, California
(Phone: SP3-4331 - TO9-0921)

-continued next page-

DR. BRUNOL'S LETTER continued

All donations are tax-deductible. I will send you a certificate attesting to your donation. Your help will be highly appreciated. Please ask your friends to donate. I welcome advice on how to raise money.

I am also studying the biophysics of the respiratory system, cancer, rejuvenation of living cells, hyperbaric surgical chambers which will revolutionize surgery, weight control, etc.

Yours,

Dante Brunol, M.D.
Pasadena, California

SPECULATIONS AT TO THE FUTURE OF CRYOGENICS

by L.P. Fitzgerald (M.P.G.)*

If the theory of cryogenic suspension for man survives, it will probably gain universal acceptance within the next twenty-five years. Within this period government participation in one form or another seems probable. No doubt some method will be found to make sure that those who wish to be frozen will be frozen - at public expense if necessary. Moreover funds will be made available to make sure that those frozen at their own expense continue to receive frozen storage (i.e., periodic liquid nitrogen renewal) even after their own funds are exhausted.

Perhaps by sometime in the 1980's governments will have the task of providing cryogenic suspension for millions of people annually. Probably it will be necessary for all the governments of the world to participate in the freezing program. The changes that will occur in human values and philosophy will be so immense that all governments will have to participate. As a practical matter I do not see how this can be done - also as a practical matter I do not see how the pressures can be resisted.

The 21st Century will bring immense pressures to develop roads to human immortality (or indefinite life extension) by other means than cryogenic preservation. Probably successful suspended animation and reanimation will be attained sometime in the 21st Century.

There are an increasing number of predictions by planners, scientists, etc., of a "Golden Age" sometime in the future. This Age would provide (1) Indefinite Life (2) Mature mind - youthful body, (3) Universal Wealth, (4) World Peace, (5) Population Stability, (6) Universal Language, and other goodies. It has been predicted that some of these advantages will occur in the 21st Century. Their effect on the total environment and human condition is usually not analyzed. However, it must be concluded that the achievement of one item will greatly accelerate the achievement of all the others. The universal acceptance of the Theory of Cryogenic Suspension will increase the

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* (M.P.G.), Member of the Permanent Generation.

---THE FUTURE OF CRYOGENIC SUSPENSION continued

desire of the people for the "Golden Age" and the awareness and expectation of the "Golden Age" will increase the desire of the people for Life Extension by cryogenic and other methods.

Optimistically we can begin to hope that the Golden Age will arrive in the 21st Century. Being an extreme optimist I will take the Year 2050.

(Before leaving this trend of thought it should be noted that Universal Wealth is to be expected in the Golden Age - money will not only not be a problem, it will not even be a consideration. To those of us NOW (1967) living, this means that it is completely unnecessary to allocate funds for our reanimation. When the time comes for reanimation of the frozen there may be reasons for not doing so, but certainly money will not be one of them).

The theory of Cryogenic Suspension is not static or slow-moving - it is fundamentally dynamic. It will either "snow-ball" with ever increasing rapidity or it will disappear. Furthermore it is inherently universal and cannot be limited to class or to nation. All must be frozen or none will be frozen.

If our speculations are valid then it would seem that by the 1980's, someone (either government(s) or individuals) will be faced with the task of freezing and storing something like thirty or forty millions of people each year. It should be immediately stated that this may not be such a monumental task as it might seem at first glance. If freezing and storage is done on a mass basis then it will probably not require any more expense, time or effort, than present day funerals by conventional methods. With experience and improved technology the cost may be even less.

Reanimation of those between January 12, 1967, and the date on which reanimation begins will depend on two factors. These are:

- (1) The ability
- (2) The desire

Much has been written about the ability for reanimation. Little about whether or not our descendants will consider it desirable.

The freezing era will extend from January 12, 1967, until there are no more clinical deaths. There will be clinical deaths until medical science provides indefinite life extension by methods other than freezing. (This would be by organ transplants, ageing control, etc.) For ease of discussion a definite date will be useful - so let us again pick the Year 2050, previously selected as the beginning of the Golden Age. (If you do not like this date - pick another.)

So - the freezing era will extend from 1967 until 2050 - a total of 83 years. Based on the universal acceptance of freezing sometime in the 1980's or 1990's and the freezing of some thirty or forty millions annually until 2050, it will be seen that some one or two billion humans will be frozen; cryogenically preserved and awaiting

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FUTURE OF CRYOGENIC SUSPENSION continued

reanimation by the Year 2050. (The Golden Age will still have its problems and what to do with a billion or more frozen people will certainly be one of them). As noted above by the Year 2050 indefinite life extension by other methods will have been attained and the freezing era will come to an end.

Population control and stability will surely have become global long before 2050. World population may have stabilized at perhaps ten billion living humans and perhaps two billion in cryogenic suspension. The technical capability for reanimating these two billion humans will have been attained.

Even though our descendents of the Year 2050 may have the ability to reanimate us the question still remains as to whether they would want to. Some speculations may be useful. At least reasons can be examined as to why they would not wish to reanimate.

The only positive motivation for reanimation in 2050 readily apparent is compassion and perhaps curiosity. It seems reasonably certain that reanimation would have a low priority. Before it could be undertaken the following world problems obviously would have to have been resolved. (1) Total and permanent peace, (2) Universal Wealth, etc., However, we will assume that the Golden Age has arrived, all problems have been solved and the only question remaining is whether or not to reanimate some millions or billions of frozen humans. No doubt the question of whether or not to reanimate will pose as much difficulty to our descendents as the question of whether or not to freeze does to the present generation.

CONCLUSIONS

1. It is unnecessary and even undesirable to allocate funds for reanimation.
2. In publicizing the Cryogenics Theory more emphasis should be placed on the opportunity to live in the Golden Age. Freezing is not particularly attractive.
3. The possibility that the individual will be held in frozen suspension for hundreds or even thousands of years should be de-emphasized. More emphasis should be placed on the possibility of reanimation in the 21st Century.
4. More religious participation is desirable. A religious service and blessing at time of the placing of the person in a frozen state would be helpful. (This is not covered in the foregoing discussion - still it is a good idea and should be seriously considered).
5. The conclusion that some millions of people will be frozen annually and the idea that eventually a billion or so will be in frozen suspension is reasonable but it is also startling and even alarming. A change in human procedures of this magnitude will take a bit of getting used to. However under

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CONCLUSIONS TO FUTURE OF CRYOGENIC SUSPENSION continued

present and past conditions millions die every year and there are no doubt billions in cemeteries and other burial places. No-one finds this the least unusual. From a moral standpoint it seems that the preservation of humans for eventual reanimation does more for human values and dignity than does the present burn and bury methods.

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SUSPENDED ANIMATION IN INSECTS CALENDAR LIFE EXTENDED FIFTY TIMES

In previous issues we have noted scientific reports of unusual extensions of life. Bacteria have been revived after one third billion years of dormancy. Life itself has an extension of 3.1 billion years. Lupine seeds have remained in permafrost suspension for 10,000 years before blooming. Weed seeds for 1700 years. Lotus seeds in a bog from 800 to 2000 before sprouting. Some micro-organisms have had their functional lives extended 65 times, and some laboratory animals several times, in the laboratory.

During the first day or two of November, Prof. H.E. Hinton of the University of Bristol, reported to the Royal Society about his experiments in suspended animation with small common sub-Sahara African fly. The fly is very small, just over one-tenth of an inch long in its larval form, with a distinct head, thorax, body and tail. When dried the larvae can withstand temperatures above 100°C and almost absolute zero. Hinton has kept the larvae in a state of suspended animation for three years. Yet upon moistening with water at room temperature they spring to life and cannot be distinguished from larvae at the same stage of growth but 1/50th as old by the calendar.

How can an organism return from the inert -or cryptobiotic- state though it is composed of millions of cells and has suffered such extremes of temperature? Hinton's view is that life originated under such conditions, though not so extreme, and this fly amongst other organisms has maintained the ability to survive high and low temperatures, dry and moist conditions. During suspended animation the molecules of the fly must not be seriously disarranged. The addition of moisture at normal temperatures allowed life to become active in the fly as it probably did with more primitive organic molecules when life was first forming.

One of the oddities of cryptobiosis is that the organism could be broken in the inert state and upon warming and moistening the parts returned to life as far as the many cells were concerned, only to die as an organism. Though Hinton is primarily interested in insects, cryptobiosis, and the origins of life, he suggested that suspended animation is not impossible for man.

POSSIBILITIES OF MONITORING HEARTBEAT AND DEATH

Dr. S.K. Wolfson of the University of Pennsylvania has tapped the chemical energy in glucose, in a person's body, to make electrical energy to drive a pacemaker for the heart. Could this energy be used to transmit a radio wave of a person's heartbeat to a central station? If the heartbeat became irregular the rescue squad would be sent.

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POSSIBILITIES OF MONITORING HEARTBEAT AND DEATH continued

Of course, an internal battery is not mandatory, but merely one of a host of possibilities. Grouse, grizzly bears, turtles, and a wide range of animals have been fitted with radio transmitters to return information about the animals from their natural habitat. On one floor of the Lenox Hill Hospital in New York all of the patients are monitored for temperature, respiration and blood pressure. Dr. DePasquale of the same unit has long suggested that patients outside the hospital could wear a wrist-watch-size monitor for the same life-saving purpose. Knowledge of a dying person's location is apparently not impossible to obtain. The New York City Police Department is planning for an electronic system whereby the exact location of 1000 patrol cars can be seen at a glance though the cars travel 6,000 miles of streets and highways.

A device, though much simpler than some of the above, suitable for LES use, is probably in existence. -One such as Dr. DePasquale has suggested. Perhaps it is merely an information problem. Have any of our readers knowledge of such a device that could be obtained for members desiring it?

LETTERSDOG SURVIVES 20MINUTES OF CLINICAL DEATH

Dear Sir:

I am enclosing an article from MacLeans magazine (November 1967, English & French editions, 481 University Ave., Toronto), which indicates that a recent Russian experiment to "bring the dead back to life" has been successful.

After being clinically dead for twenty minutes, the dog was revived, partially through the aid of mutual blood circulation with a second, anesthetized dog.

I believe it to be most significant, however, to note that according to Prof. Yankovsky, there appears to be NO DAMAGE TO THE BRAIN.

If the above experiment can be repeated and proven to do all that it appears to do, then this would give hope to those who have been "dead" a half hour before freezing.

All in all, amid the storm of doubts, the passing of time has strengthened, rather than weakened, the purpose and place of LES as what must become a stronger voice for us all.

Yours truly, / Noel Elliot
Toronto, Canada

Dear Mr. Cooper--

I am pleased to see that LES is going to build facilities. Our members need something permanent to work toward and contribute to. Even if we can only build a small place now, design it so a laboratory can be added later.

The only secure way for a facility to operate is by a non-profit organization. As we have seen recently private firms can only handle the person if there are profits to be made, and this project is too important for that. Had we a non-profit facility in operation, Marie Phelps-Sweet's case would not have become such a problem. We would have had a good start out here in California if some people didn't think they could sweep the feet out from under the public overnight. This cannot be done with something so new and unusual as freezing. As past history has shown there are no profits and a great struggle before you can get the public to accept a great change. The number one thing is that you have to have something to show first.

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LETTERS continued

Since we are all working toward the same end all members should cooperate and work together on both a national and international basis. With the jet airplane and the shipping container the storage facility could be anyplace. The ideal place for storage would be in permafrost in Northern Canada (or Antarctica?) where the rate of liquid nitrogen dissipation would be lower. Also, it would not become so critical if something ceased to function.

Sincerely yours, /Arne Johnson
Garden Grove, Calif.

TRUE MAGAZINE STORY OCTOBER 1967

J.F. Wilkinson wrote an article on the freezing idea spotlighting Bob Ettinger's basement do-it-yourself perfusion and freezing kit which Dr. Brunol objected to on page 2 of this newsletter. Almost no one is against hospital perfusion under expert scientific direction for that would be ideal. However, until local doctors and rescue squads will cooperate immediately upon death, an emergency basement freezing system could be useful. The home system is much as described in previous newsletters. DMSO, saline, dry ice, insulated storage container(s), etc., are kept on hand. Perfusion is by gravity and external pressure on the heart area instead of by a heart-lung machine. Dry ice is packed around the body.

MEETINGS

The members of LES in the San Francisco Bay Area will hold their first meeting on Friday evening, Jan. 12, 1968 at 8PM in Berkeley. All members are requested to attend to get the chapter off to a good start. Please call (415) 848-7557 for details

The Washington monthly LES meeting, Nov. 21, was small but got a lot done. Criticism of LES was discussed. -Some have the feeling of being left out of decisions. To gain more involvement a motion was made to form committees on laboratory design, insurance, problems in progress with land and building, and a nominating and election committee. In line with the principle of one member one vote, everyone can vote by mail, even though they may not be able to attend meetings, in a similar fashion as the previous year. Declining term insurance was discussed and a strong plea was made for members to make sure they have insurance. A lengthy discussion of insurance is planned for a future FWR issue. A motion was made for a proposed amendment to be voted upon by the membership. The amendment is to comply with an IRS request or suggestion that in the event of dissolution LES assets would not go to an organization outside the country. The manner in which the article is now worded is too general. Our progress with land and building was also discussed.

RESCHEDULING OF THE 5TH FWR CONFERENCE. APRIL? MAY? JUNE? JULY? WHEN?

If you have a preference, an opinion, or a strong feeling when the conference should be rescheduled write in soon. The weather is usually suitable by late spring. June has the advantage of schools being over.

Next Washington monthly LES meeting, Georgetown Library, Dec. 19th, the third Tuesday of the month, 7:30 pm.

Next March 2, Cryonics of New York will hold a general conference at the N.Y. Academy of Sciences. At the present time an attempt is being made to re-form the Cryonics societies into a new organization, the Cryonics Society of America.

LES GAINS OFFICIALLY RECOGNIZED TAX EXEMPT STATUS, AND A POSTAL PERMIT.

After a long long wait, a difficult beginning and a gracious ending with the Internal Revenue Service, the Life Extension Society is now officially recognized as tax-exempt. Our Vice President, John Prince, Jr. was given a unanimous vote of thanks at our November meeting for his unflagging efforts and the speed with which he obtained the postal permit. LES is tax exempt as a scientific and educational non-profit organization. This means that contributions to LES are tax deductible.

NEWSLETTERS & MAILING DATE. Currently 1000 FWR's are published monthly. The regular mailing for this issue is scheduled for Sunday December 3rd.

WHAT TO BELIEVE IN FREEZE-WAIT-REANIMATE? As some publications only print what they expect others to believe, an occasional disclaimer may be worth entering about FWR. In our efforts to honestly tell about the freezing idea and the movement we often reprint directly contradictory views. Obviously you must think for yourself, for there is no telling what you may see in the newsletter. If you take exception to what you see, or have information or an idea to offer, write us. Sometimes we can include what you have written.

GIFT SUGGESTION: SUBSCRIPTION AND LES MEMBERSHIP. If you would care to make a gift of our newsletter (or membership if you know the person would wish membership) to a friend, let us urge you to send us their name and address and money or check (preferable) for the subscription or/& membership. --Students \$1. Regular \$2. Contributing \$5. Life \$150 (contrary to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help. At present, (and in the past), we do all the work cooperatively. No one is paid for his services. No salaries or monies of any kind are paid to anyone in LES.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettlinger who has unselfishly made himself available for the best of advice and help in freezing. Also, note offer by Dr. Brunol.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Pestors, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

-continued on last page-

Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Dimbokro(Ivory Coast)		Djomen Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48115 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)382-7330	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Françoise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Ranford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose	(408)294-2866	James Lewis
Shelby Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
Swansea, G.B.	50989	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have offices as yet.



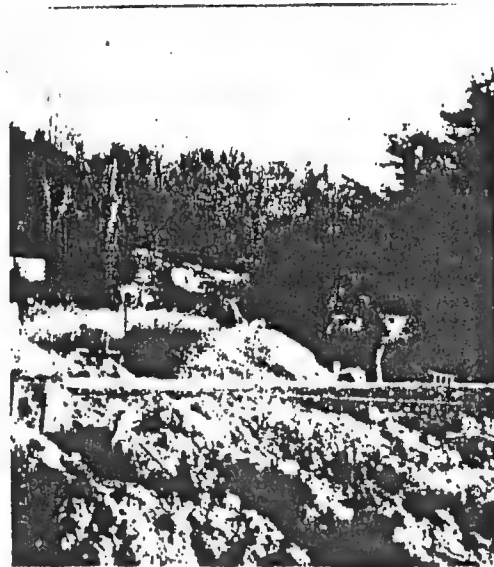
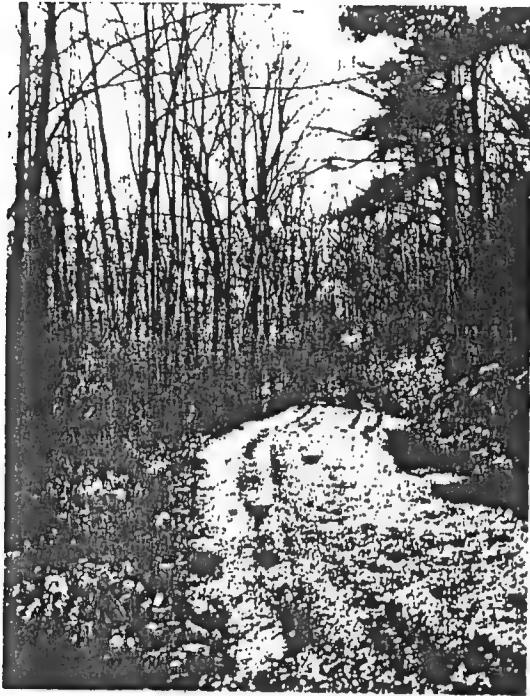
FREEZE - WAIT - REANIMATE

The Life Extension Society Newsletter

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



The above are two views of LES property that has been acquired recently. Our desire was to have a building up and ready for our society's use immediately --say within a week's time. We might have had a vision of one of Buckminster Fuller's geodesic domes flown to the site and operational the next day. In reality, after a month or so of work, the varied service of half a dozen trucks, a bulldozer, a front end loader, a backhoe, sundry smaller machines, laborers and mechanics, we have but half the foundation in concrete. Though we wish the building

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were further along, we at least feel fortunate to have that much accomplished in 1967. For the moment we ask your indulgence if we do not publicize the location. Considering how many problems there are with construction and the winter weather, we can use all the peace and quiet possible in order not to be delayed further. Our plan is to have it open for inspection by the time of our rescheduled conference. Depending on the numbers it might be possible to have the conference on the site or visit the land and building the second day of the conference.

The plan for the building is extreme simplicity. If funds are limited and the desire is to have the building up with a minimum of delay a simple layout is mandatory. The words and ideas of Buckminster Fuller come to mind. For institutions looking toward the future with many needs or uses, he urges simple enclosures against the weather and "clean spaces". The space available can then be altered for multiple use and changing use with changing needs. Thus it might be possible to make a virtue out of necessity.

NOTE: One of our members, a professor of philosophy in a western university, suggested an essay that our readers might find of interest, agreement and disagreement. The essay will be reprinted in several instalments. We thank Dr. Lamont and The Journal of Philosophy for permission to reprint from their January 1965 issue.

MISTAKEN ATTITUDES TOWARD DEATH

The preoccupation of existentialist thinkers with death and their painful agonizing over it have lately brought about something of a revival in philosophic reflection on human mortality. In his stimulating but erratic book, The Faith of a Heretic,¹ Walter Kaufmann sharply criticizes the views on death of Kierkegaard and Heidegger, of Sartre and Camus. While I agree with much in these criticisms and in Kaufmann's volume as a whole, he finally reaches conclusions about death that I consider almost as unacceptable as those of the existentialists. I quote:

If one lives intensely, the time comes when sleep means bliss. If one loves intensely, the time comes when death seems bliss. . . . The life I want is a life I could not endure in eternity. It is a life of love and intensity, suffering and creation, that makes life worth while and death welcome. There is no other life I prefer. Neither should I like not to die. . . . For most of us death does not come soon enough. Lives are spoiled and made rotten by the

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1. New York: Anchor Books, Doubleday, 1963.



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MISTAKEN ATTITUDES TOWARD DEATH continued

sense that death is distant and irrelevant. One lives better when one expects to die, say, at forty, when one says to oneself long before one is twenty: whatever I may be able to accomplish, I should be able to do by then; and what I have not done then, I am not likely to do ever. One cannot count on living until one is forty--or thirty--but it makes for a better life if one has a rendezvous with death. Not only love can be deepened and made more intense and impassioned by the expectation of impending death; all life is enriched by it (372-373).

In some forty years of reading in the religious and philosophic literature concerning death, I have rarely found a statement that seems so perverse as the one just cited. If what Kaufmann says about loving intensely is not just poetic extravagance and is to be taken seriously, then I must seriously retort that it runs counter to common sense and human psychology. Just why should the rapture of love make us "welcome" the nothingness of death? Why not the continued rapture of love? Kaufmann's sleep-death metaphor is just as misleading in the year 1963 A.D. as in the year 463 B.C. when the ancient Greeks were already toying with it. Death is about the last thing to occupy the thoughts of a man and woman passionately in love; and the more intense their feelings, the more unlikely it is that they regard the complete extinction of themselves and their love as some sort of "bliss."

As for Kaufmann's assertions, "For most of us death does not come soon enough" and "One lives better when one expects to die, say, at forty," I am frankly dumbfounded. For these remarks imply that it is preferable to die in the very prime of life. According to Kaufmann, I ought to reel rather ashamed that I am nearing sixty-three and am still in good condition. Evidently, Kaufmann expects the generality of mankind to be youthful geniuses and accomplish all their best work by the time they are forty. Yet the briefest glance at the history of highest literary, artistic, and cultural achievement shows what an enormous proportion of it has resulted from the energies of persons well beyond that age.

Apparently, too, for Kaufmann the science of medicine has for a long time been on the wrong track by concerning itself with individuals over forty and by gradually increasing the span of life, so that today in the United States the average life expectancy is more than seventy years. If he is consistent, Kaufmann should prefer the situation in India, still

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MISTAKEN ATTITUDES TOWARD DEATH continued

a country of appalling poverty, starvation, overpopulation, ill health, and lack of medical facilities, where the average life expectancy is only forty-two.

"Whatever I may be able to accomplish," avers Kaufmann, "I should be able to do by then" (by forty). Not a word about enjoyment or pleasure, or the leisurely delights of retirement, old age, or perhaps being a grandparent. Kaufmann adds: "What I have not done by then (by forty), I am not likely to do ever."

The plain facts do not bear out this judgment. Consider the thirty-six Presidents of the United States: not one of them became Chief Executive until after he was forty, and the three greats--Jefferson, Lincoln, and Franklin D. Roosevelt--were not inaugurated until they were over fifty. Moreover, the truly creative individual, no matter what his age, rarely feels that his work is done; new tasks, new vistas keep opening up for him. I think especially of three active nonagenarians, all philosophers, whom I have been privileged to know personally: William Ernest Hocking, Alexander Meiklejohn,² and Bertrand Russell. These persons all happen to be well known, but there are thousands of others in the same age group who have carried on with useful work. These various considerations lead me to say that the ideal should be to live to at least twice forty, thus increasing by a decade the traditional goal of three-score years and ten.

Finally, I take issue with Kaufmann's assertion that "all life is enriched" by "the expectation of impending death." The joys and values of human living are valid and worthwhile in and of themselves; they stand on their own feet and need no ratification, either by some supernatural god or through comparison with the realm of death. The great consummatory experiences, the moments and moods of exaltation that come from knowing beauty or love, do not depend in the slightest on any sense of imminent death. Psychologically, an individual who is constantly aware of impending death is usually saddened by the thought in a way that hardly enriches his day-to-day existence. When Kaufmann declares that "it makes for a better life if one has a rendezvous with death," he is suggesting an exaggerated consciousness of death that is only too reminiscent of the Christian viewpoint. He reminds me here of the story about the man who re-read his will every night before retiring, fearing that he might not survive until morning.

All in all, then, Kaufmann's attitude toward death, in the passages I have cited, appears to me fantastically out of joint. Even if in these comments he intended merely to strike a poetic pose, it does not come off and remains essentially a strained and lugubrious meditation on man's fate.

Corliss Lamont

New York City

(Editor's note: The above is part I of Dr. Lamont's essay. Parts II through IV will be reprinted in a following newsletter or newsletters.)

² Professor Meiklejohn died at the age of ninety-two on December 16, 1964, after this article was in type. He was distinguished not only as a philosopher, but also as an educator and an uncompromising civil-libertarian.

BRIEF REVIEW OF 1967 IN AND OUT OF LES

If one begins to sort out and remember merely a few of the major and memorable events of 1967 as they apply to the extension of life and LES, one thinks one sees the usual mixture of richness and tragedy, dull work and new discovery.

With all that needed to be done, LES came apart a trifle at the seams. Growth continued but individuals splintered off forming, or continuing to form, four or five new groups. Some are thought to have formed independent organizations for profit in the background of their societies for nonprofit.

A much larger event was the freezing of Prof. Bedford in California. Prof. Bedford was the second person frozen but the first frozen under relatively good conditions. He was followed by the freezing of Marie Phelps-Sweet under rather poor conditions.

In the larger world beyond the freezing and life extending movement, the synthesizing of DNA was perhaps the major advance of the year. Practically this meant that the effort to synthesize life had begun in earnest, or had been won, depending to whom you spoke. No one we know disputes that this basic understanding in the synthesis of life eventually will lead to the control of a person's functional age. The problem for most people is whether they might live in the active state until aging control is practical, or whether they might have to wait in a state of cryogenic suspension or suspended animation. Without doubt the understanding of life that comes with its synthesis will immeasurably facilitate reanimation from the frozen condition.

The era of heart transplants is in progress. Three transplants have taken place, all having failed in some respects. The individual patients died. One person's life was extended eighteen days. A fourth heart transplant is reported today.

With the various space probes man is sending a tenuous filament of life ever further away from home. Sensibly in 1967 scientists sent mechanical and electrical extensions of our sense organs to soft landings on the moon and a slow drop through the atmosphere of Venus.

One of the most puzzling events was the purported severing and rejoining of the human spine by Dr. Murray in Toronto. The world first acclaimed and then grew skeptical of his claim. To an outsider it would appear that Dr. Murray stretched, distorted and dramatized the facts to raise funds. When reporters insistently demanded an answer whether or not he really did sever the spinal cord completely, he shot back with, "I'll cut your goddam head off, if you don't shut up. I'm not going to have any of this bunk around here." --That reply should ring in the annals of medical public relations for some time.

But -- what Dr. Murray claimed will eventually be achieved if he hasn't achieved it already. At the outer reaches of the imagination, rejoining ability might be necessary for future reanimation depending on the methods and demands for economies in storage.

Obviously there is the darker side that we often hesitate to speak of. Nuclear war remains the greatest danger to cryogenic storage and to uninterrupted scientific advances. Some fear the war in Viet-Nam or/ and the continual growth of armaments will eventually lead to WW III. It is almost impossible to convey in words the extent of the tragedy of

BRIEF REVIEW continued

the war, the magnitude of the loss of life, the destruction of the quality of life, and the queasiness over the war's moral aspects.

"There is a growing sense of guilt. Our people are becoming revolted and ashamed by the spectacle of themselves engaged in a war where a big, a rich, super-armed giant is trying to beat the life out of a dwarf. Less and less are enjoying the idea of themselves in such an uncivilized, unchivalrous, inhumane role.

"Everyone knows that this is the most unpopular war in American history. It is also the war which most deeply affronts the American conscience." (Walter Lippmann, The Washington Post, Dec. 3, 1967)

Returning to the work-a-day world, LES headquarters scandalously neglected the membership in 1967, and the newsletter, in the drive to get land and facilities. Tax exemption as a scientific and educational society as well as a postal permit was obtained during the year. Land was acquired. We have friends all over the world and a small mountain of mail to keep us busy, not to mention the building program. It would appear that we have a pretty good foundation for the New Year.

INFORMATION FROM PROF. VALENTI AND A REQUEST FOR INFORMATION

Dr. Valenti of Catania in Italy has formed, or is forming a "Centre of Cryo-biology" which will also contain an organ bank. He and his colleagues look forward to the time they will have a well equipped center for cryogenic storage.

In a few days Dr. Valenti and his friend Dr. Finocchiaro plan to begin a series of experiments in immunization prior to transplanting. They wish to ascertain whether an initial insertion of a fragment from an animal species to a human will produce a condition which will make it easier for the human to accept a transplant from another human. If the results are positive he will give LES a report on the methods used.

Dr. Valenti also has the problem of obtaining a liquid nitrogen container or containers. If anyone, especially in Europe where shipment problems would be simpler, knows of large new or used liquid nitrogen storage containers available, please call Dr. Valenti. His phone number is on the coordinator's page at the end of this newsletter.

Lastly, Dr. Valenti who is an enthusiastic experimenter, urges other LES members and coordinators who are so inclined to experiment along similar lines.

MARC COLLET BEGINS AN LES NEWSLETTER IN FRENCH

The first edition of ATTENTE REANIMATION, a nine page issue, was published in December. He reviews the idea, the history, and issues an appeal for people interested to join. The plan is to issue the new publication once every two months. We stand amazed and thankful for Collet's energy, initiative, sacrifice and effort. The publication in French supplies or fills a real need among our French speaking members. Collet, for a long time our prime coordinator on the Continent, is also an LES officer.

DR BRUNOL BEGINS THE FIRST OF A SERIES OF EXPERIMENTS ON THE SUPER-COOLING OF DOGS.

Dr. Brunol, who helped perfuse and freeze Prof. Bedford and Marie Phelps-Sweet, has issued an initial work report and plans for the immediate future in his research. The brief report indicates the complexity of perfusion and cooling in the areas of anesthesia, artificial respiration, cannulation, surgery, heart-lung machine, circulation and cooling. His report indicates that something can go wrong at each stage and often does. Some of his equipment is improvised such as utilizing a vacuum cleaner for a compressor. He is reported to have been given a \$5,000 grant for his experiments by the Harlan Lane Foundation of Spring, Texas. Dr. Brunol plans to improve the procedure for lowering dogs initially to zero centigrade. Later he intends to go to lower temperatures.

Dr. F. Golan held dogs lifeless at zero centigrade for one hour and then returned them to life as far back as 1954. (Fed. Proc. 13:57, 1954) His method appears to be somewhat similar with the use of a heart-lung machine and cold perfusion.

Over and over again most all of these experiments or actual operations with the use of a heart-lung machine for perfusion indicate how complex they can be and how important expert knowledge is. If a person wishes to be perfused and frozen when all other hope is gone, the "only" place to die is in a well equipped hospital. If a person desiring the same dies under less desirable conditions, perfusion and freezing can be made simple. But it will probably be less effective.

More and more we see and hear of instances where the dead are considered patients. We see this in resuscitation cases where greater and greater effort is expended to bring the temporarily dead back to life. We see this where great care is taken of part of a hopelessly dead person to be transplanted to someone else. The doctor's job (or anyone caring for a person who has just died) doesn't end with death nowadays, but a whole new phase of treatment and preservation begins which is probably more demanding than the complexities of his regular practice.

MICHAEL HART SPEAKS BEFORE THE HUMANIST SOCIETY

Michael Hart, our LES coordinator in New York, gave a talk on cryogenic suspension before the American Humanist Society in New York on December 22nd. His presentation was apparently well received resulting in an addition to our membership and spreading the possibilities of low temperature preservation and life extension.

SAN FRANCISCO BAY AREA MEETING JANUARY 12TH AT BERKELEY

The members of LES in the San Francisco Bay Area will hold their first meeting on Friday evening, Jan. 12, 1968 at 8pm in Berkeley. All members are requested to attend to get the chapter off to a good start. Please call (415) 848-7557 for details.

RESCHEDULING OF THE 5TH FWR CONFERENCE. JUNE A POSSIBILITY.

In a previous newsletter the membership was asked if they had suggestions or strong preferences when to schedule the delayed conference. April, May, June, and July were suggested as possibilities. So far there seems to be a preference for June. One person suggested the weekend of the 8th and 9th of June. Again, let us urge you to let us know if that weekend is convenient, or would you prefer some other date?

NEXT WASHINGTON MONTHLY LES MEETING

The next local monthly meeting in Washington will be at the Georgetown Public Library, January 16th, 7:30pm.

NEWSLETTERS AND MAILING DATE

Currently 1000 FWR's are published monthly. The mailing date of the previous issue was December 4th, delivery taking seven days in the immediate area. The regular mailing for this issue is scheduled for January 8th.

GIFT SUGGESTION: SUBSCRIPTION AND LES MEMBERSHIP. If you would care to make a gift of our newsletter (or membership if you know the person would wish membership) to a friend, let us urge you to send us their name and address and money or check (preferable) for the subscription or/& membership. --Students \$1. Regular \$2. Contributing \$5. Life \$150 (contrary to to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help. At present, (and in the past) we do all the work cooperatively. No one is paid for his services. No salaries or monies of any kind are paid to anyone in LES.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettlinger who has unselfishly made himself available for the best of advice and help in freezing. Also, Dr. Brunol, who offers his services. (213)SP3-4331.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

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Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof.& Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48115 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr.Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Françoise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Sanford, Fla.	(305)322-1553	Dr. Bradford Harrison, III
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
Swansea, G.B.	50989	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Tulsa, Oklahoma		Steve Rainer
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have
 offices as yet.



FREEZE - WAIT - REANIMATE

The Life Extension Society Newsletter

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

• JAN • 68



A LONG COLD BEAUTIFUL ROAD AHEAD

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Corliss Lamont

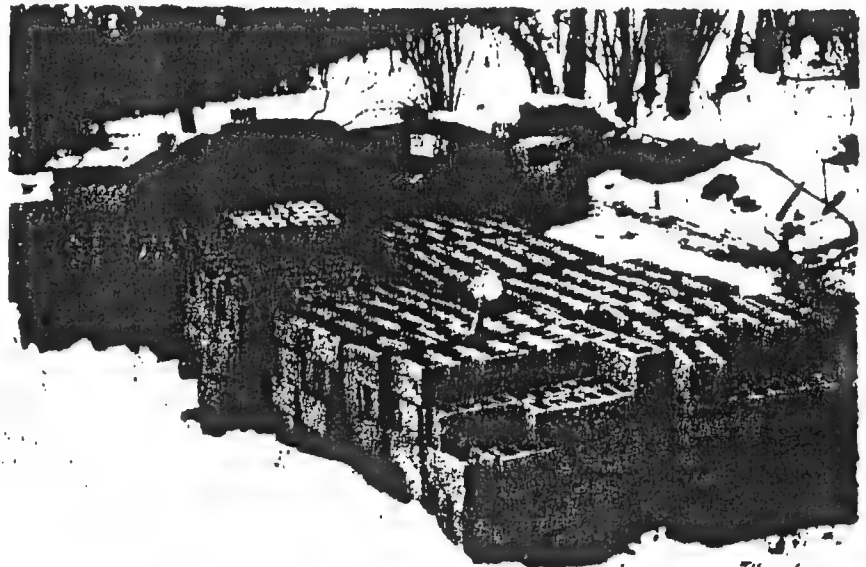
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Building blocks for the future on site.

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STARTING THE NEW YEAR WITH A FEW WINTRY BLASTS. A prefatory note warning our readers of what is to follow.

If you have been used to reading newsletters that present only the rosy side, this issue may be rough. We have been asked to suppress Dr. Brunol's letter. If Dr. Lillehei's letter had sufficient circulation prior to this publication we probably would have had a request not to reprint it.

But, it doesn't make a bit of sense to suppress or distort opinions, ideas, attitudes, or the facts if your newsletter is dedicated to giving its readers a fair shake. Our hypotheses must withstand the strongest criticism or we should look for a new theory. Many would "feel good" just to hear the rosy side. But deeper down most of us want to know representative thought around this hypothesis of extending life through freezing. We wish to know who is truly critical and what they have to say. Occasionally it is well to know some of the ludicrous ideas suggested as well as some of the humorous and sublime. We must be open to discussing alternative methods of extending life even if they first seem shocking and disturbing. Most of our newsletters are traditional, selecting out progress to report, and encouraging everyone forward. So if this issue happens on material that is especially critical and mildly provocative your indulgence is requested. If you have a reply to any of the ideas or opinions presented please send us your response.

The first letter was sent to us by C.A. Williams of Minneapolis. He states: "Enclosed is the reply to my request of the noted Dr. Richard Lillehei for help with freezing in case of death. Thereafter, upon my request, he gave his consent to have it reprinted in the Life Extension Newsletter. This I hope you will do as I think it would be interesting to read replies to his statements."

DR. LILLEHEI'S LETTER INDICATING THERE IS LITTLE OR NO HOPE AT PRESENT

Dear Mr. Williams:

I have your recent note concerning preparation of the dead for freezing with the long-range goal that such individuals may be thawed at a time when there was advanced medical knowledge which would make their cause of death now a curable condition.

Let me say that I am in general sympathy with the interests in this area. However, I think that I should state distinctly that it is not possible at the present time to prepare a person who has recently died for freezing and freeze him with any hope that such a person could be thawed successfully at some future date. This does not mean that such would not be possible in some years. The problem with all of these groups such as the Life Extension Society, the Cryonic Society, and others is that they are not willing to face reality. What these groups should be doing is mobilizing massive support for research laboratories interested in this problem. There is presently a great shortage of monies for research into the freezing of whole organs and whole animals. I know that with the proper support and effort that it will be possible at some future date to freeze an entire experimental animal and thaw the animal successfully. Only after this is done should this procedure be tried on man. This is the way that Medicine has advanced in the past and will advance in the future; with experimentation in the laboratory followed by application to man.

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DR. LILLEHEI'S LETTER CONTINUED

I would think that your own efforts both in time and in money would be better expended if you would take an interest in the support of research laboratories such as our own which are actively working in the field of freezing and thawing of whole organs and of whole animals. Any plan which bypasses or ignores the need for more experimental work in this area is due to failure. I do hope that this answers your question.

Sincerely,
Richard C. Lillehei, M.D.
Professor of Surgery, Univ. of Minn.

COMMUNICATION FROM DR. BRUNOL

TO SOCIETIES INTERESTED IN SUSPENDED ANIMATION

Your first goal is to build storage and freezing facilities. This is the reason why you are not willing to help research in this field. How can you build facilities when a safe method for freezing does not exist? According to my present knowledge, the method for freezing which I have described is far from safe.

We developed new methods, but only experiments with animals can prove whether they are safe.

When a reliable method is found, it will be easy for you to find contributions to build facilities. Nobody at present can tell how the facilities should be built. It would be a waste of money to build them now. The first expected unsuccess on our experiment on super-cooling has shown us how to greatly simplify the procedure. This should convince you that only experiments on animals will show how to make the method for freezing humans safe, and what kind of facilities we need.

Neither Dr. Bedford nor Mrs. Sweet will be revived. We must not confuse probability with impossibility! If even a single cell of them survive, future generations will be able (if they want, but why should they?) to make a copy of them with no memory of the past.

I would not be interested in having a copy of myself made in the future! Would you?

Only scientific achievements can greatly multiply the number of your members. Your objection is: What about the people who are dying now? It is completely illogical to believe that future generations will be able to repair the damage caused by improper methods of freezing.

In the cells, there are long chains of electrically polarized blocks of molecules. If they are allowed to fold, the blocks will stick together in a way incompatible with life. The cells will die shortly after being revived. The task of unfolding billions of these chains is an impossibility, like perpetual motion.

I advise you to read "Resuscitation" by the Russian, V.A. Negovskii.

Our new procedure is theoretically safe. Emergency teams and cardiac massage are not necessary. The cost of the apparatus is \$400. The cost of chemicals, \$100. Storage facilities for 50 people will cost \$4000.

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DR. BRUNOL'S COMMUNICATION CONTINUED

We are not willing to publish this method unless research on animals proves that it is safe. It will give us a better idea of the kind of facilities we need.

If you do not want to make any effort to help research, I do not see any reason for further collaboration.

You have many members. Invite them to seek offers from their friends to be sent to the Harlan Lane Foundation. Ask them to contribute at least \$10 dollars each. The donations are tax-deductible. If they really believe in suspended animation, they should be happy to do so.

You could donate also some of the money you are keeping to buy apparatus for freezing you will never use.

This will permit Dr. Karow and myself to try to find a safe method for freezing humans.

Some of you gave my phone number to anyone who asked for it. Please only give my home address.

Yours,
Dante Brunol
79 Patrician Way 3F
Pasadena, California 91105

PARTIAL REPLY TO DR. BRUNOL

One persons suggested that if we did publish Dr. Brunol's communication, we should at least give an immediate reply. It is unlikely that our readers will be so shaken in their current beliefs that they need immediate support. However, it is easy to reply or repeat some of the rationale for our actions and tentative convictions. The editor hopes others will send in their views also.

GOALS AND FACILITIES: Perhaps our most general goal is to extend life. We have no special attachment to freezing. It merely seems the most likely method for those who die right now. In time, aging control will supplant freezing. Our land and facilities are meant for many uses: research, small gatherings, conferences, recreation, and whatever use it may be to the society. If freezing should be proven not to be sensible, and I don't think it will be so proven, our land and facilities can still be used for our other goals and uses. As to how to build for the future, consult our last newsletter and the ideas of Buckminster Fuller. The idea is to build to obtain sheer space -put rather crudely. That space can continuously be altered to meet changing needs. This may be presumptuous, but I doubt very much that any new discovery in freezing or preservative technique cannot be accommodated in a reasonably large building. -Or, that building can be expanded and altered. Our most difficult task has been to get the land and start the building upward, not in adjusting to new techniques in freezing. We know we need the building as a base of many activities. If preservation methods become simplified, as suggested, that sounds even more promising.

BEDFORD AND SWEET, PROBABILITY AND IMPOSSIBILITY: Many of us think that Dr. Bedford stands some remote chance of future revival or reconstruction and Marie Phelps-Sweet much less of a chance. We thought that Dr. Brunol, from his previous statements, concurred that at least they

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A PARTIAL REPLY TO DR. BRUNOL CONTINUED

stood a better chance frozen imperfectly than if they were in the grave.

COPIES AND THE ATTITUDE OF THE FUTURE: If future generations will not attempt to reanimate (by some method) Bedford and Sweet, then are they likely to reanimate anyone frozen in the future? I prefer to think they would for historic and scientific interest if not for feelings we call human. We might all have to take our chances on that. As to whether I would like a copy made of myself: I certainly would. This assumes there might be no alternative. The question would merely be if the copy were perfect or tending to greater imperfection. If the copy were relatively perfect I would be delighted and I probably would not know the difference. If the copy were imperfect, I should probably reason that it was the best that could be done and from that point perhaps I could improve. At least it would be better than nothing. If the "copy" myself had no memories but my basic reactions, I should be sad for the loss of memories, but like a complete amnesia victim, I might gather new ones including a history of myself by other means. Life would still be worth living. Many of us could give up our memories of the past right now. We would still find the present and the future vastly intriguing.

ON SCIENTIFIC ACHIEVEMENTS INCREASING OUR MEMBERSHIP: True, the results of Suda's experiments were a great boost to our hypothesis and still are. Probably building, land, better organization, more work, and a dues notice to our members will do wonders for our membership, not to mention advertising when we think we are ready to handle the increased mail.

FUTURE GENERATIONS WILL NOT BE ABLE TO REPAIR THOSE FROZEN IMPERFECTLY? This is possible; they may not. We may have to take a chance on this. But, as always, better to take a chance than the grave. We cannot be scientific and be dogmatic about this. There is no way of knowing now. And a good bit of scientific history shows we should never underestimate science and the future. It may be quite simple for them provided we give them a reasonable pattern. It may make no difference if the "long chains of electrically polarized blocks of molecules" have folded, or even broken apart here and there. If the original pattern can be ascertained, or some approximation of the original, then in theory the person could be reconstructed and reanimated. There may be "endless" methods of reconstruction in the future.

CONCERNING NEW PROCEDURES THAT ARE INEXPENSIVE: If inexpensive methods of preservation can be developed they will be a boon to mankind. This is a goal dear to our hearts. Let us urge that any of these ideas be made available for discussion with any reservations or qualifications stated as needed.

CHEMICAL CONTROL OF AGING PREDICTED BEGINNING ABOUT 1995

From the early 1980's on it has been predicted that genetic engineering will begin to control hereditary defects, new organs and limbs will be stimulated to regenerate, drugs will increase intelligence, and chemical control of aging will begin. These of course are just educated guesses. A discussion of such innovations can be found in The New York Times, Jan. 8, 1968 and in Olaf Helmer's book Social Technology. (Basic Books, Inc. 1966)

(The following is Part II of Dr. Corliss Lamont's essay on attitudes toward death. Parts III and IV will follow as a later instalment. We thank Dr. Lamont and The Journal of Philosophy for permission to reprint from their January 1965 issue.)

MISTAKEN ATTITUDES TOWARD DEATH

Charles Hartshorne is another philosopher with whose views on death I emphatically disagree. He writes in The Personalist:

No animal endowed with much power of memory ought to live forever, or could want to, I should maintain; for the longer it lives, the more that just balance between novelty and repetition, which is the basis of zest and satisfaction, must be upset in favor of repetition, hence of monotony and boredom. Old animals, and old people, in principle (exceptions are in degrees only) are bored animals and bored people. This is not essentially a glandular or circulatory phenomenon. It is psychological: one has felt and done most of the things that must be felt and done so many times before.

As Jefferson wrote to a friend: "I am tired of putting my clothes on every morning and taking them off every night." Thus, he concluded, the Creator prepares us for death. Thus indeed. That many old people are spry and eager only proves that their chronological age gives but a rough index of psychological age. Thus all complaint against death itself seems misguided. Death is needed for the solution of an aesthetic problem, how memory is to be reconciled with zest.

I must take issue with Hartshorne's analysis from start to finish. I am an animal with a pretty good memory and in full control of my mental faculties. And though I wrote a book, The Illusion Of Immortality,⁴ in order to show that there can be no survival of the human personality after death, I nonetheless do want to live forever, provided I maintain fairly good health and a satisfactory economic standard of existence. Obviously, nobody would desire the eternal life of a senile mind and decrepit body.

Many people commit suicide because they feel too unhappy to go on living, or because they meet some shattering setback, or because they are mentally abnormal. I suppose that some individuals kill themselves out of sheer boredom. However, I cannot accept for a moment the claim that human beings in general are bound to become so bored with life that they are glad to have it end. Jefferson's remark about dressing and undressing was, with all due respect to that great man, a trivial one to support the solemn conclusion he drew from it. Dressing and undressing, and many other routine actions needful for day-to-day existence, ought ordinarily to become habits that require but little conscious effort.

Hartshorne asserts: "Old animals, and old people, in principle (exceptions are in degree only) are bored animals and bored people." This could be true of beasts, fish, and birds, but the possession of mind in man does make quite a difference. Owing to the immense progress of medicine and health over the last hundred years, old age in the more highly developed societies does not usually begin until a man is, say,

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3. The Personalist (Autumn, 1958):387

4. New York: Philosophical Library, 1959

MISTAKEN ATTITUDES TOWARD DEATH continued

seventy. Yet I have known so many individuals between seventy and ninety who never got bored with life, that I refuse to admit they all were exceptions "in degree" or in any other way. On the other hand, I have known a few people who were bored with well-nigh everything at the age of twenty-three, thirty-three, or fifty-three. Such individuals will find their existence tedious if they reach old age, since they always did.

Actually, this pleasant earth and the many different countries and cultures that have developed upon it provide endless varieties of experience for an alert and vigorous person. How many centuries would it take for an educated man to learn all the world's languages and read all the good books in every field that have been published since the invention of the printing press? How many aeons would a lover of Nature require to view and explore all the scenic beauties of this planet, including those of America's National and State Parks? Such questions show how easily the imagination can conceive of unlimited opportunities for human beings to enjoy the continued novelty and zest that are needed, according to Hartshorne, to make life worth while.

For the sake of argument, I have been assuming that Hartshorne is correct when he asserts that zest and satisfaction are dependent on a "just balance between novelty and repetition." However, I now wish to say that I think his psychology here is unsound. In the first place, much that is novel is unpleasant; any new type of pain, for example, is hardly the sort of experience one would seek in order to give life zest.

In the second place, I deny that repetition as such leads necessarily to "monotony and boredom." Consider, for instance, the basic biological drives of thirst, hunger, and sex. Pure, cool water is the best drink in the world, and I have been drinking it for sixty two years. If we follow through with Hartshorne, I ought to be so tired of water by this time that I seek to quench my thirst solely by wine, beer, and coca cola! Yet I still love water. By the same token, the average person does not fall into a state of ennui through the satisfaction of hunger or sexual desire.

Hartshorne states "Death is needed for the solution of an aesthetic problem, how memory is to be reconciled with zest." Here I must disagree. My memories of happy experiences --whether of listening to a Beethoven symphony, reading poetry or philosophy, rejoicing in the play of my grandchildren, skiing down a snow-covered slope in Vermont, or viewing beautiful vistas of forest stream, and mountain--such memories do not make me feel, "How dreadfully tired I am off all that!" Instead, they give me a zest for encores.

What Hartshorne forgets, it seems to me, is that while constant repetition of the identical experience may well cause boredom, a repeated cycle of variety does not have the same effect. Characteristic of human behavior such as eating, traveling, making love, writing books, reading books, going to plays and concerts, painting pictures, dancing, working creatively, and exercising in the open air can be carried on in patterns of variety that seldom give rise to monotony.

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MISTAKEN ATTITUDES TOWARD DEATH continued

These, then, are some of the reasons why, despite Hartshorne's remarks, I would rejoice in living on as an immortal upon our earth or in some other place equally attractive. Now either he or someone else is going to call these sentiments of mine extremely egoistic. Yet they are mainly an extension of the innate urge for self-preservation; and in any case a large degree of self-interest is ethically legitimate in the motivations of any human being. I suggest, however, that my position stems primarily from a profound sense of the sweetness and splendor of life.

Corliss Lamont

New York City

THE FIFTH LES FWR CONFERENCE SCHEDULED FOR JUNE 8TH AND 9TH WASHINGTON

The weekend of the 8th and 9th of June, when the academic year is completed but before summer activities have begun, has been decided upon for our next conference. Speakers, papers, discussion on the 8th, carrying over to 9th with a visit to facilities is planned. Cost \$5. Begin planning now to come. More on the conference in the next issue.

NEXT WASHINGTON MONTHLY LES MEETING Feb. 20th, 7:30pm, Georgetown Lib.

GIFT SUGGESTION: SUBSCRIPTION AND LES MEMBERSHIP. If you would care to make a gift of our newsletter (or membership if you know the person would wish membership) to a friend, let us urge you to send us their name and address and money or check (preferable) for the subscription or/& membership. --Students \$1. Regular \$2. Contributing \$5. Life \$150 (contrary to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help. At present, (and in the past) we do all the work cooperatively. No one is paid for his services. No salaries or monies of any kind are paid to anyone in LES.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization, or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for so graciously extending themselves. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettlinger who has unselfishly made himself available for the best of advice and help in freezing. Also, Dr. Brunol, 79 Paulician Way 3F, Pasadena, Calif.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East SF Bay)	(415)897-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaise

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Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48115 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley & Bob Johnson
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Francaise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
Swansea, G.B.	50989	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Toulon, France	92.70.15	Guillaume Roy (M.D.)
Tulsa, Oklahoma		Steve Rainer
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have
 offices as yet.



FREEZE - WAIT - REANIMATE

The Life Extension Society Newsletter

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Anyone can lay that first block. However, notice other photos later in this newsletter.

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FOURTH PERSON REPORTED FROZEN

A Michigan businessman who died at the age of 55 now lies frozen with Cryo-Care in Phoenix, Arizona. Ed Hope, president of Cryo-Care, makes no claim that the Michigan businessman will ever be revived. The freezing is said to be for cosmetic purposes, that is, to prevent deterioration so the body will always look the same. The story was carried in a number of papers including the Chicago Daily News.

LES members who read the article cringed at such things as the subtitle which read "Wheeling, dealing wig manufacturer out to make buck in 'freeze-now, revive later' body-preserving scheme." However, the story is reprinted further on in FWR in our attempt to bring to our readers anything interesting, relevant, and representative. There are a number of distortions such as "quick-freeze" and "cataclysmic effects" but fewer errors than many accounts.

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(Reprinted with permission from the Chicago Daily News.)

Dead men's hopes put on ice

Wheeling, dealing wig manufacturer out to make buck on 'freeze now, revive later' body-preserving scheme

By Bob Rose
Our West Coast Bureau Chief

PHOENIX, Ariz.—Ed Hope, the incredible wigmaker who freezes human bodies, patted a huge white steel cylinder. Inside was the No. 1 example of his craft, the rock-hard remains of an elderly Glendale (Calif.) scholar who died of cancer a year ago.

Some day, when a cure for cancer is found, Hope expects to defreeze the body, unwrap its 80 layers of aluminum-coated plastic and turn it over to doctors to treat him and bring him back to life.

His slogan is "Freeze, wait, reanimate."

"I suppose you could say I am bringing new hope to the dead," smiled Hope, 47, a self-described promoter and wheeler and dealer, former nightclub operator and race-track owner. He freely admitted he hopes to "make a buck" in the body-freezing business.

The new business, so far, isn't doing all that great—he just got Body No. 4 recently. But

who denounced his quick-freeze process from the beginning have not changed their minds.

And Hope conceded he and his two partners may have overplanned and otherwise misfigured public acceptance of their scheme. One of their problems was that they built a storage unit to hold 2,000 cylinders. "It looks like an empty warehouse," Hope said. "So now we're building a smaller place."

The three partners originally thought they would do a land-office business in children.

Their first creations were Kiddie Capsules.

"I thought a husband and wife losing a daughter would just come the hell down to Phoenix and take care of that daughter. But it's turned out to be just older people," Hope said.

The body of Hope's first customer, an elderly California woman, was thawed after a year and returned to the family for burial. Hope said he consented to the freezing only

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Insight

things are looking up, particularly after the heart-transplant operations in South Africa, California and New York. More people began to speculate that if they died because of a defective organ, they could be frozen until a replacement technique is perfected, then be defrosted and fixed up.

"I'm getting 25 to 35 pieces of mail a week since the heart thing started. It had dropped down to 5 or 6," said Hope.

DESPITE RISING expectations of some of Hope's prospective customers, the biologists, chemists, physiologists and other scientists

CHICAGO DAILY NEWS

Monday, January 29, 1968

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Insight

He quick-freezes dead men's hopes

Continued from Page 3

after pestering by the family. He said he had explained there was no hope for revival of the woman since her body had been embalmed.

"When the funeral home got the body back," Hope said proudly, "there were new workers there, and they thought she had just died."

SO THE FIRST USE of the quick-freeze process, while doomed from the beginning, became, in a way, its own success, because it opened the door to what Hope calls "cosmetic freezing."

This isn't for people who hope to be brought back to life, but for those who just don't want to rot. With my technique, a thousand years from now they'll look beautiful. Absolutely no deterioration," he said.

This is the case with Body No. 4, that of a Michigan businessman who died at 55. His name was not disclosed because of the wishes of the family.

Body No. 2, Hope's pride, was that of James H. Bedford, 73, a retired psychology professor. Bedford had decided years ago he wanted his body preserved by freezing for later revival if possible. He left an estate to take care of it.

When he died, his physician and members of the Cryonics Society of California, the group pushing the "freeze now, live later" idea, packed his body in ice. The cryonics group (from the Greek "kyro," meaning icy cold) used artificial respiration and external heart massage to protect the brain from oxygen-loss damage until it was frozen. The blood was drained and replaced with anti-freeze solutions. Then the body, packed in dry ice, was flown to Phoenix, where Hope took over. He put it in the 11-foot, white cylinder and pumped in liquid nitrogen. The body remains there, frozen at 320 degrees below zero Fahrenheit.

BODY NO. 3 was that of a 74-year-old California woman, identified as Mrs. Russ Le Croix Van Norden. Her body was turned over

to the cryonics group, which she had named beneficiary of a life insurance policy. But Hope doesn't take too much responsibility for her, except for the original freezing last September.

"They came and got her (in a capsule) and she's someplace in California. I understand her temperature is way up, too," he said.

Capsule price rises

One of the advantages of the Hope Cry-O-Capsule, he said in the beginning, was its mobility. "Hell," he said, "you could put it in a crypt—in your front yard if you wanted to. Any place. It only needs to be serviced every seven or eight months."

Hope has had to increase the weight of the capsule by turning from aluminum to stainless steel. "We found some leakage problems with aluminum," he said.

This has raised the price.

"We figure we've got to charge \$4,685 for our new tanks. It was \$4,000, but the weight has gone up from 1,000 pounds to 1,400 pounds, and stainless steel is more expensive," he said.

Other charges include \$20 a month for storage and \$300 a year for maintenance, "or make that about \$500 a year in rough figures," he said. Hope and his partners, identified only as a couple of "MIT graduate engineers," have invested some \$250,000 in the project so far, he said, and he has no plans to run a nonprofit operation.

"Like, hell. This nonprofit thing is too much of a slow-moving thing for me," he said.

HOPE SAID HE had financed his body-freezing losses out of the profits from his wig-making operations, which he got into when he moved here from New Jersey. He admitted he has done well. He also operates a finance company, the Hamilton Trust, in connection with his wig business.

He attributed a lot of his success to Phoenix, a wide-awake town, where he arrived with "less than a thousand bucks in my pocket 10 years ago."



Nightclub to wigs

In New Jersey, he had run Chubby's nightclub, featuring name entertainers such as Nat (King) Cole, until the business fell apart. He had gotten into welding and making aluminum tanks, for milk trucks and the like, back when that was new. Finally, he got into "fooling around with wigs as kind of a family thing."

"I always tried to promote something or other. I was the first and only guy to walk into Phoenix with wigs. And now just look. No other industry in the United States grew like wigs. I happened to hit it at the right time. Now I sell wigs wholesale across the United States. I have two wig colleges and a government contract to teach the Hopi Indians wigmaking. I wheeled and dealed because I had the right thing at the right

time. Actually, that's what we're hoping to do with Cry-O-Care."

HE GOT TOGETHER with the two MIT men—they had the knowledge of cryonics and he had the know-how to put tanks together—and they set up in business.

As soon as the scientific community got wind of their project, they denounced it as "extremely naive" and "absurd." They pointed out:

- No one has ever succeeded in restoring function even to a single organ that has been frozen, let alone an organism the size of a man.

- Deep freezing has a cataclysmic effect on the fine structure of cells, greatly disrupting their chemical and physical nature and making it extremely doubtful that life could be restored.

- Thawing cannot be achieved fast enough to keep cells thawed at the beginning from deteriorating before slower-thawing cells have been de-iced.

Dr. John Lyman, head of the UCLA biotechnology laboratory, described the Hope process as "extremely doubtful, to say the least. For instance," he said, "the enzymes continue to work in the cells even at very low temperatures."

"The metabolism of the cells breaks down. Even cooled by liquid nitrogen, the cells burst. What you get is something like a dish-rag."

Surgeon Leslie E. Rudolf of the University of Virginia has reduced a cell's metabolism by supercooling with dimethyl sulfoxide (DMSO), the solution injected into the body of the Glendale professor. Rudolf believes ways may be found to reduce cell metabolism by supercooling with dimethyl sulfoxide but he sees even this as far in the future.

Clerics speak out

The idea of a frozen rebirth has theological implications, too. Phoenix ministers questioned by the Arizona Republic, gave these views:

● Should the frozen person be given a funeral? Most answered they would not hesitate to perform a funeral service. "If he were later revived," said the Rev. Dr. Howard McBain of the First Baptist Church, "I would regard it as one of the many miracles God works through medical science."

● Should the spouse be permitted to remarry? Most agreed that if the frozen person was declared dead, it would be all right. But the Rev. Michael Weishaar of the Casa de Paz y Bien retreat, said that a first husband, having been in a state of suspended animation, might thaw out a decade or two younger than his wife.

"This," he said, "is my main objection—or question—to the experiment. Not theology or morality, but the fact that psychologically the frozen person may not be able to adjust to a world 10 to 20 years beyond him. And those he rejoins may not be able to adjust to him."

ON THE QUESTION of the 'soul, some churchmen said the going "really gets sticky."

But the Rev. John Doran of St. Thomas the Apostle Roman Catholic Church said:

"It has been the mind of the church that the soul does not leave the body immediately after death, but there is no way for us to tell."

"I presume that if the person is frozen, his soul would remain frozen as well."

Rabbi Albert Plotkin of Temple Beth Israel concurred. "Actually, the soul is a poetic kind of thing," he said. "It is a concept of 'that which is the life-giving spirit.' It would remain."

Far-out expansion

Regardless of the musings of the scientists and theologians, Hope and his partners intend to keep on—and even expand their operations in a way or two.

"One of them is far out," Hope said. "We are now storing a skin section and several other sections of a boy's body. His family in Pennsylvania had their doctor remove the parts after the boy died. They believe that science one day will be able to recreate his whole body from the parts," Hope said.

HOPE ALSO IS thinking of setting up a frozen sperm bank. Contributions would come from important citizens.

"You know, it's the superrace deal," he explained. "Think if John F. Kennedy had been included in such a program. It would be worth \$2,000 or \$3,000 or \$5,000 for each use."

"We're just getting going on this project," he said.

Meanwhile, Hope's two silent partners may identify themselves soon.

"At first, they used to be ashamed of this deal. But they don't really give a damn any more. People like the American Legion and others want us to speak at their meetings. The National Cryonics Society is meeting in New York March 2. The younger generation is eating this up like mad. Kids going to school want to make presentations on it."

"Hell, we're in demand now instead of being considered nuts."

BACTERIA FOUND FROZEN AND DORMANT FOR THOUSANDS OF YEARS IN ANTARCTICA

One of our questions and hypotheses has apparently been answered. According to Drs. R.E. Cameron and R.E. Benoit, bacteria have been found in Antarctic permafrost "where they have apparently lain frozen and dormant for thousands of years." (N.Y. Times, 1/19-/68)

The lack of any examples of bacteria long dormant through freezing has been one of the glaring vacancies in cryobiology. It was known that bacteria and yeast left by explorers had survived some fifty years of freezing. But fifty years of suspended animation was a paltry second in comparison to Dombrowski's discovery that bacteria in cool salt deposits survived upwards of 300,000,000 years of dormancy.

In retrospect it seems easy to see why the ancient bacteria have been found in salt and not in ice or permafrost. The ancient bacteria virtually forced themselves on Dr. Dombrowski. They were revived by a warm spring of water and force upward virtually to the doorstep of Dombrowski's laboratory. Bacteria in ancient ice and permafrost are found only in inaccessible regions of the earth. It seems easy to continue the prediction that if bacteria thousands of years of age have now been found in permafrost, in the future scientists should find samples in permafrost where the organisms can be revived from tens of thousands or even millions of years of frozen dormancy.

These current thousand year old bacteria have been found as a byproduct of the space race. Scientists have been employed to analyse regions of earth for life which most closely resemble Mars. In finding life in the most desolate regions of Antarctica they become more adept at locating possible primitive life forms on Mars.

Benoit and Cameron's bacteria are weird looking organisms of almost every color, red, black, purple, green and orange. In our era they may be active but one month per year. In the long winter months they must survive 85 F degrees below zero.

Thousands of years ago some of these bacteria were lodged deeper in the permafrost where they remained permanently dormant until the space oriented scientist dug them out with sterile instruments. Dr. Cameron in his laboratory in Antarctica said, "I

LIVE BUT DORMANT THOUSAND YEAR OLD BACTERIA FOUND continued

sometimes think of them sitting around waiting for the next thaw."

PROFESSOR GERALD FEINBERG PRESENTS HYPOTHESIS ABOUT PARTICLES EXCEEDING THE SPEED OF LIGHT.

For the past seven years Professor Feinberg has been considering whether there could be particles which exceed the speed of light. More recently he has presented a hypothesis in The Physical Review, and also reported in The New York Times, 1/28/68, that particles he calls tachyons which exceed the speed of light could exist. So far tachyons have not been found in laboratory experiments to the best of our knowledge but the hypothesis is relatively new.

If Feinberg's hypothesis is true it would mean that man could in theory eventually extend himself "infinitely" further in space much more quickly. As it now stands, even with the prospect of rocket travel and messages sent at the speed of light, man is restricted to a pitifully small corner of the universe.

Professor Feinberg is a thinker who is interested in what is important to man in the long run as well as the present. He is interested in stimulating discussion on the short and long range values of man especially the latter. Man should be concerned and aware of where he is going and why. Perhaps then he may have a less destructive more intelligent journey into the future.

Not only is Feinberg interested in possibly exceeding the present limits of space or speed, a concern for man's values, but also whether life can be extended. He is an LES Adviser, has written for FWR, and given talks at our conferences. His article "Physics and Life Prolongation" in the November 1966 Physics Today and reprinted the next month in our newsletter is a request that the freezing hypothesis be given serious consideration.

BEDFORD FOUNDATION NOTES THE FIRST ANNIVERSARY OF THE FREEZING OF PROF. BEDFORD

A little over a year ago, on January 12, 1967, Dr. James Bedford, a retired college professor died and was frozen in Glendale, California. Norman Bedford, the son of Prof. James Bedford is head of the foundation and Robert Prehoda is research director.

The father remains safely frozen, but the affairs of the foundation haven't gone as well as expected. It is reported that neither Dr. Able nor Dr Brunol are with the foundation anymore. Research in cryobiology has been discontinued and a proposed building program has been held in abeyance for lack of funds. Norman Bedford reports that they will still strive to build a small facility, it is just that interest is not as high as they had expected considering the amount of publicity they have received. They are looking at land in the Lancaster and Hesperia areas. Less than ten people have signed up for freezing with the Bedford Foundation. Norman Bedford remains confident of his father's future. He points out that if his father could have been resuscitated 10 minutes after his death, with ideal equipment and help, then a good chance of his revival will exist in the future no matter how long the patient awaits in suspended animation.

NEW BALLOON PUMP A HEART ASSIST AND POSSIBLE AID IN PERFUSION

Some fine medical and scientific advances fail to be noticed because other more sensational advances command our attention. Dr. Barnard pushed ahead of orthodox medical ritual with his heart transplants and left the tongues and fingers of some of the more conservative moralists wagging in disapproval. But the amazing extension of Dr. Blaiberg's life casts a shadow on their arguments. It is only natural that Dr. Joseph Krakauer's report on the balloon pump before the Los Angeles County Heart Assn. didn't receive much attention in the welter of such exciting heart transplants. Nevertheless it appears to be important for at least three reasons.

One, the pump has improved the survival rate of heart attack patients in shock from one out of ten to eight out of ten. The pump can be inserted rather simply into the aorta via a plastic tube which is placed in an artery in the groin. A pump at the bedside inflates and deflates the small balloon sufficient to keep blood circulating until the heart recovers from shock. It can also be used for an assist to diseased hearts. (One of our members reports that a discussion of the pump can be found in the Los Angeles Times on or about Jan. 15, 1968.)

Two, from the standpoint of perfusion for freezing, this pump could have several advantages arising from its purported simplicity. It is reported that it can be used in the ward or at the bedside. It is possible that it could be more easily obtained and more easily used than even a portable heart-lung machine. There appears to be no immediate reason obvious why the balloon pump could not be used in conjunction with gravity perfusion and artificial respiration. At least it presents an alternative that might be used when other devices are not available.

Three, if the balloon pump is being used for that person who is not resuscitable, those current two out of ten, then the pump is already in position and operating for initiation of the perfusion process.

The suggestion for use in perfusion is only in an emergency. But most perfusions may take place in emergency situations in the near future. The main disadvantage of the balloon pump would seem to be its non-cooling ability though experiments with super-cooled air or gas could be envisioned. The advantage of the heart-lung machine with a heat exchanger is that it can cool the body more quickly than any other known method. Regardless of this the balloon pump invites further investigation for emergency situations.

Miscellaneous News Notes:

LES member Ernest Fiore, who was written up in Life magazine at the time of the Bedford freezing, will be interviewed on the subject of Art and Reanimation on station WWBZ, Vineland, N.J., 9:30am (scheduled) March 1st. -- Forrest Walters has had six radio, TV, and speaking engagements in the last two months in Pittsburgh and the surrounding area. -- Several members, J.J. Zeletski and M. Schwartz among others report their contributions to Dr. Brunol have been returned from the hospital. Apparently there is some problem of costs connected with collection.

NEXT WASHINGTON MONTHLY LES MEETING March 19th, 7:30pm, Georgetown Lib.

Letters

Dear Ev, Reading the December Newsletter which arrived this morning it occurred to me - yet another macabre and impractical suggestion - that transplantation of heads might offer a more reliable method of extending life until something better turns up than freezing. If the shock and initial not to mention subsequent strain was not too great one could use the blood supply of another (or vice-versa just to show I am not thinking exclusively in selfish terms). It could even have advantages (two heads better than etc.)(less room, less need for food, ability to maintain continuity with developments thus avoiding the need for re-education on revival etc. Of course it would demand considerable self-denial etc. but if for instance it were one's spouse some people might accept it. The possibilities now beginning to emerge out of improved techniques of transplantation and the problems they pose seem to diminish in comparison to this one. If one could offer life to another at such cost one's generosity would surely suffer a severe test. Maybe I have been reading too much science fiction. However I think it may be worth considering such possibilities now if only to prepare ourselves for even less imaginable problems. I hope that as a result of these bizarre ideas you have not written me off as one of the nuts. I admit my thoughts seem unusually free of conventional restrictions sometimes but such fantastic things are going on now I wonder who exhibits the behavioural adjustment most likely to improve chances of survival, the practical plodder or the leaping lunatic? ... Yours indefinitely,

Comment:

Alan Worsley, Hull, England

Are we also to infer from your tactful and modest suggestion that with one act you could solve half the population problem? You have an ingenious extension of possibilities but haven't you upended the order of practicalities? Considering your concern for the vital organ of identity only, haven't Suda's experiments proven that freezing is most practical right now? Successful transplantation will come later. Almost everyone is pussyfooting about this restricted freezing alternative for fear of offending sensibilities. But the scientific and practical factors for such a restricted preservation appear overwhelming as an alternative if and only if there cannot be preservation in toto. The cost might be a tenth or less of the in toto method. Considering this to be an emergency method before aging control becomes practical, isn't it probably the only possible way the many poor throughout the world could be preserved? Space saving might be anywhere from 1/7 to 1/25th. The saving of a part might be more acceptable for the remainder can be suitably arranged for traditional rites. Many doctors would be much less reluctant to perfuse and freeze a part than they would the whole. They are used to saving specific parts, even the part containing one's previous identity, for analysis. With some obvious changes they have the general pattern of Suda's experiments to follow outlined in the world's foremost scientific journal: Nature. This procedure reduces the problem to its simplest base. It saves the one essential organ. Stewart's experiments indicate that an identical body could be produced in the future. Prosthetic replacement possibilities will expand in the future. It would seem there is no technical problem in this that could not be solved satisfactorily to any reasonable person. There is an initial fear reaction aroused because it is so novel. Lastly the problems of perfusion and cooling are reduced in magnitude and complexity. This possibility at least deserves unemotional discussion as an alternative possibility when more encompassing preservation is not possible.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Dr. Brunol(79 Patrician Way, 3F, Pasadena, Calif.), Bob Ettinger, and Dr. Roy, all of whom have made themselves available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

-continued on last page-

SUBSCRIPTION AND LES MEMBERSHIP. Students \$1. Regular member \$2. Contributing \$5. Life \$150 (contrary to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help, but at present and in the past we do all of the work cooperatively. No salaries or monies of any kind are paid to anyone in LES.

THE FIFTH LES FWR CONFERENCE SCHEDULED FOR JUNE 8-9, IN WASHINGTON

PLEASE INFORM US IF YOU INTEND TO COME

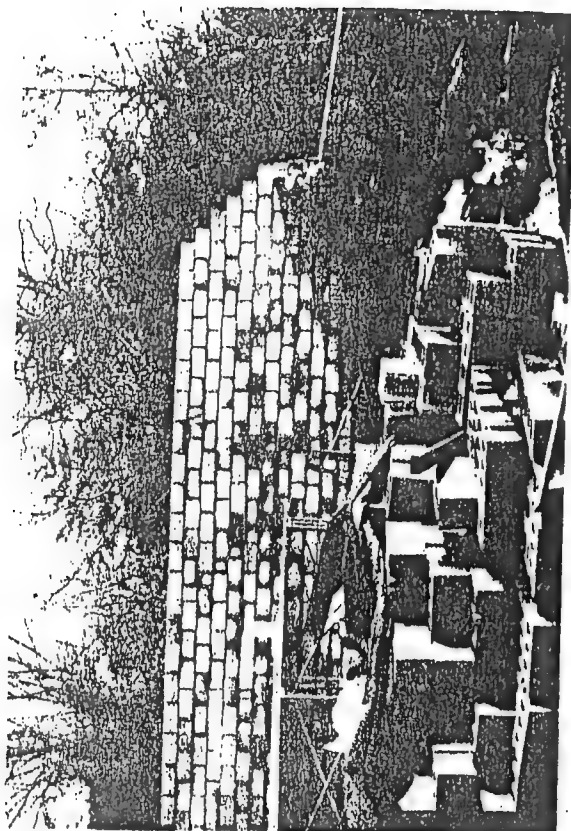
The weekend of the 8th and 9th of June, when the academic year is completed, but before summer activities have begun, has been decided upon for our next conference. Speakers, papers, discussion on the 8th, carrying over to the 9th with a visit to facilities is planned. The cost is \$5 and we hope to have this cover the cost of your lunch on the 8th. The conference is expected to be very small, very quiet, and very informal. Too much of our energy is going into the building of facilities to have an elaborate conference. ...And now a pep talk sent in by our wonderful young LES sparkplug, Jerry Cullins: "**MEMBERS RALLY!**" "Members of LES, so far I believe we have done a good job. But it is my belief that the conference deserves more support. Every LES member should try to come. But not if it would ruin their finances or be injurious to their health. Members should try to get there not only because of the exchange of information but to show support in our cause. We must not weaken in the face of stubborn resistance. So let's go to work." RIGHT NOW WHAT WE NEED TO KNOW IS IF YOU DEFINITELY INTEND TO COME IN ORDER TO BETTER MAKE ARRANGEMENTS. Tear off this form and send, or simply drop us a postcard. Do it now.

Name _____ Address _____

☐ Yes, I intend to attend the conference June 8th? and 9th?
If you are driving would you accept riders? _____. Do you need a ride? ____
I will enclose a check or other later _____. (For those who wish to include a check now, please indicate amount _____.)

Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	
Houston	(713)H08-1559	Mrs. R.C. Philips
Hull, England	48114 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
Ladybrand, S.Afr.	2501-Ext 136	Robert Marin
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
Nagpur, India		S.S. Zadgaonkar
New York	(212)939-1364	Michael Hart
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Françoise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
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Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

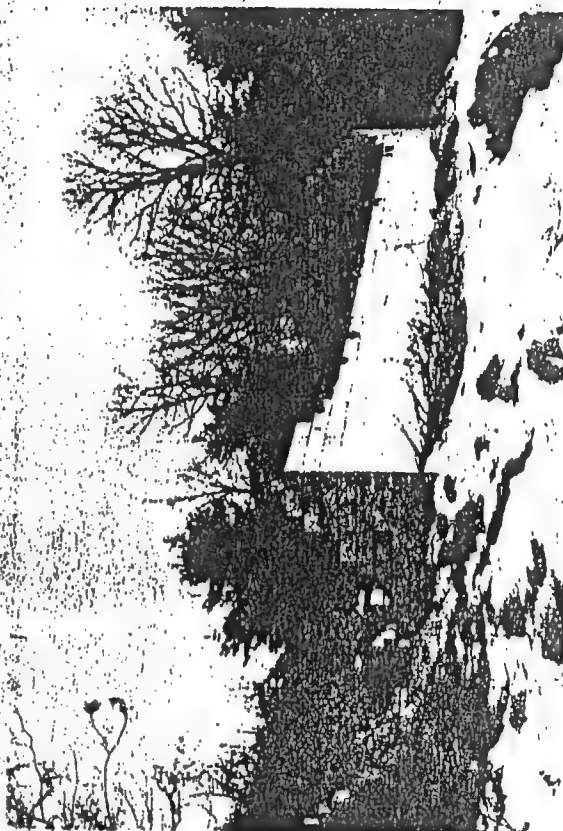
LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have
 offices as yet.



Life Extension Society
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Vol 4 No. 44

March 1968



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

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WASHINGTON, D. C. 20036

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News and research
notes.

FWR conference June 8
and 9 to be very small.

Icy humor

Subscription and
membership information.

Information and help,
coordinator's page.

Photographs of LES
facility in progress.



• -copyright 1968-

TO SOCIETIES INTERESTED IN SUSPENDED ANIMATION By Dante Brunol, M.D.

In your many years of existence you have never provided the apparatus necessary to freeze a human according to a method theoretically acceptable. It is completely illogical to believe in the possibility of revival of Dr. Bedford and Mrs. Sweet. I was present at the freezing in both cases and I know that no scientific method was employed. In both cases I refused to take the responsibility of directing the freezing because of the lack of facilities.

This is what should be done in my opinion:

1. To arrive at a method of freezing theoretically feasible. In my opinion my new methods in theory minimize all known sources of damage. But this opinion of mine should be validated by other scientists.
2. To provide the apparatus for perfusion (pumps, air bubble traps, heat exchangers, etc.). This implies a cost of approximately \$2,000. Only an expert in heart-lung machines can train the technician who is supposed to use such an apparatus. Only a surgeon knows how to cannulate the vessels without injecting air-bubbles which would jeopardize a successful perfusion. I designed such an apparatus but I am sure that some changes would be necessary to build a first prototype functioning satisfactorily.
3. The apparatus must be tested on some animals in order to acquire the minimum of experience necessary to successfully perform the freezing.

This is the minimum that should be done if you want to attempt to freeze a human. This would cost far less than what you have already spent in superfluous equipment. To accomplish this it would take no longer than two months. What about the people who are dying now? Let them die in peace! Do not make them waste money. The next step should be to prove at least that my methods do not cause formation of dangerous ice-crystals inside the cells. To freeze a human in the proper way is not an easy task. No serious scientist can come out with a "Do-It-Yourself Method for freezing your body". You are morally obligated to tell the truth to your members about the present stage of this art.

Dante Brunol, Pasadena, Calif.

LETTERS

.....ALL WELL AND GOOD IF YOU CAN WAIT

By Barry Kramer

I noticed that a conference was mentioned in your January issue. Is this open to any member, and, if so, what would be the approximate costs?

Also in that issue, a letter from Dr. Dante Brunol was printed. He seemed to be saying that it is better to wait until the time when a device for freezing is perfected for human use. This is all well and good if you can wait. But what about the person who dies tonight? Should he be denied a chance to live again if there is even a slim chance that he may? While the chance may be exceedingly small, I would definitely prefer that over no chance at all.

Barry Kramer, Bronx, New York

Ah! Now that you folks are getting down to the nitty-gritty, as put forth in the letters from Dr. Brunol and Dr. Lillehei and the subsequent reply to their objections, I can no longer restrain my own comments.

I believe the writer of the unsigned reply misunderstood Dr. Brunol in regard to desiring a copy of oneself in the remote future; the apparent unexpressed assumption in Dr. Brunol's letter was that the "soul" in the copy would not be intact, or have I oversimplified an area of scientific complexity?

Dr. Lillehei and Dr. Brunol both appear quite involved in furthering LES aims in that they so strongly recommend an increased emphasis on research. In the light of that, how could any thought of suppressing their very interesting comments be entertained? My letter, however, is another matter.

I don't see how the aims of LES can be completely divorced from the world situation, which is, as usual, a mess.. a mess to which overpopulation and lack of arable land is greatly contributing. It doesn't require a profound intelligence to see what a very popular interest in LES would lead to. I'm not saying I know the ethical answers, but the last newsletter cleared the air for me and stiffened my hope that LES doesn't consist of a bunch of scientific Pollyannas. That hope nearly died when I read of the conditions of the freezing of your first two freezees.

Frankly, world problems wouldn't stop my basic human lust for immortality, but the possibility of a quick second death might cool (no pun intended) the longing, and the probability definitely would. And isn't that probability just what your two freezees would face if they COULD be revived to consciousness? Well, who knows?

But then, if death weren't so painful to its victim, perhaps we survivors wouldn't think of death as being so tragic or "evil." And isn't the whole LES effort based on that assumption? I'm not knocking LES really; to me it is the inevitable extreme of Western thought, with its terrifying ego-centeredness.

And, being a Western, ego-centered, unscientific Pollyanna, here's my \$2. Please keep those newsletters coming, and let's hope your last issue set a trend. People who speak of the unspeakable (death) shouldn't be too bugged when scorched from a few fragrant fumes floating from the fire of discussion. Right?

To LES and others: LET OTHERS TEST BRUNOL'S PROPOSAL

Dr. Brunol's knowledge of an unproven, cost saving new technique (In FWR #42 he stated "The cost of the apparatus is \$400. The cost of chemicals, \$100. Storage facilities for 50 people will cost \$4000.") might be explored by letting others test it too, and in doing so might purposely or accidentally find better, more reliable and efficient methods. Why not let the ideas be aired out? One's prestige and the idea he happens to come up with first need not be permanently linked together. Shouldn't the idea be judged on its own merits? Then will come the usual criticism or praise as the facts warrant.

Norman Swenson, Worcester, Mass.

Editor's notes:

Reports from other members indicate that Dr. Brunol, was, or is proposing a three step process using antimetabolites. The first step was to perfuse the antimetabolite and heparin (one gallon) into an artery by gravity. He felt that this solution could stop metabolism better than cooling. The second step was to cover the body with ice within 12 hours. The third step was to perfuse the body shortly thereafter. Dr. Brunol stressed that only animal experiments would prove if this method is safe.

The incorporation of antimetabolites with cryoprotective agents in perfusion obviously sounds like a most promising avenue of research.

FREEZE NOW, IF THERE IS NO OTHER OPTION

Dear Ev,

-And other comments from two letters from Fahy

I do disagree with Dr. Lillehei's attitude about not using scientific methods or cures unless they have absolutely been proven. In fact I think this attitude is idiotic as far as cryogenic suspension goes. But I don't want to remove the stress I placed on research in my last letter. Though Dr. Brunol has placed 20 years as the limit in which cryogenic suspension will be perfected, I am not convinced that this figure is correct. I think he is probably right in being pessimistic about the chances a frozen person would have who is frozen now. However, freeze now if there is no other option, by all means; but for the living, try to perfect decent freezing methods soon so that we need not take the same slim chances as those frozen now are forced to accept.

By the way, I think it very possible that the only decent way, or at least the most efficient way, to freeze someone would be to dissect him and freeze the parts separately. This way the individual tissues could be given more care, and would therefore have more chance of surviving. In fact, I would say this: if a cat's brain can be revived but not the whole cat, what is the point in freezing the whole cat and not the brain separately? (Actually there is a great deal of validity in doing this, but it would seem safer to just freeze the brain.) ...

The reprint of the Chicago Daily News article on freezing was really something. But it left the reader with the impression that the whole thing is nuts. The trouble with that article and many others I have

Letters continuedCELLS AND ORGANISMS CAN SURVIVE

seen is that it gives one side of the scientific arguments concerning the possibility of suspended animation, and that isn't our side. The reader has no inclination whatever to doubt that freezing is impossible; the articles mention "cataclysmic effects" and the possible sources of freezing damage, but they do not even hint that experimental studies show that damage can be overcome, nor even for that matter that any experimental work has even been done. I myself wouldn't even consider the idea too seriously if I didn't know that despite everything the critics say, tissues and individual cells and even organisms to some extent can survive freezing as shown by documented, undeniable laboratory experiments. The theoretical objections seem overwhelming, but experimental evidence contradicts it. But how is the average reader supposed to have any inkling of this? I would seriously consider writing to the Chicago Daily News and pointing out this important failing. ... This type of publicity helps us on the one hand, but hurts us on the other: more people find out about freezing, but they are introduced to it on an unfavorable basis.

-Gregory Fahy, Costa Mesa, California

EQUAL STRESS ON FREEZING AND RESEARCH

Dear Ev,

... I would suggest certainly that the research uses of the new LES building should be stressed as heavily as its freezing uses. While I concur in the need for providing for the people dying now--but hopefully under more favorable conditions than those surrounding Bedford, and far more favorable than those of Sweet! I think Dr. Brunol has a point in the suggestion that LES and its members could do a lot of good through support as well of the R&D side of the freezing picture (as you remember, I stressed this in my foundation letters of last year). ...

-Gregory Wright, Grantham, England

THREE MAIN DIFFICULTIES AND A RADICAL SOLUTION: THE MOON

Dear Mr. Cooper:

At this moment there are, roughly speaking, three main difficulties on the path of man's bid for physical immortality by way of freezing and then thawing.

The first is scientific. It is the problem of how to freeze and then, later, how to thaw the body without inflicting damage that would make satisfactory reanimation difficult or impossible.

The second is economic. It is the problem of how to preserve the frozen body as near absolute zero as possible, continuously, perhaps for several hundred years or more, until the time arrives for thawing it. A sustained service of this sort (especially in our times where the threat of atomic holocaust is becoming more certain with every passing year) taxes the most optimistic imagination. Not only the magnitude of necessary funds seem to be staggering (due largely to the economic ups and downs that threaten even the safest investments) but also we have no reasonable guarantee of continuity of service, and freedom from damage and destruction.

The purpose of this letter is to show that perhaps this problem will be one that will be solved thoroughly and in the rather near future.

-continued-

STORAGE ON THE MOON SUGGESTED. SOME GOVERNMENTS MAY OPPOSE LIFE
EXTENSION -continued

There is a very simple and radical solution. The dark side of the moon and its deep caves, which no doubt exist there, afford us an elegant solution. People in suspended animation could be deposited and left there unattended indefinitely until the time arrives for their revival. No additional services, costs or maintenance (besides that of transportation and delivery) would be needed. (It is assumed that with mass transportation and improvements in moon travel, transportation costs will greatly diminish in the near future.) The temperature on the dark side of the moon, science tells us, is near absolute zero, colder than any that man may reach on earth.

Protection against space radiation and other hazards is afforded by the deep caves in the moon.

The third is political. There is overproduction of people. This lowers the economic value of the individual just as much as any economic goods the supply of which is increased. Less, not more, people are wanted. Governments will oppose and cunningly state that there are more pressing problems that face humanity than the extended preservation of life.

In this connection it may be important, to all those who are avidly dedicated to pushing the science of suspended animation towards success, to know fully the position of each of the eight or more major powers with respect to this field of human endeavor.

-A.L.D. (California)

HUMAN CELLS SURVIVE FREEZING WITH LITTLE OR NO DAMAGE

P.S. --- After preparing this letter I came across an article, "Human Cells and Aging," in the current (March) issue of Scientific American, page 32. Although the article was not written for the purpose of advancing the cause of suspended animation through freezing, two full paragraphs in the second column of page 35 are of major importance to it. Human cells frozen and banked in liquid nitrogen for six years, upon thawing, functioned exactly as normal cells. There was not the slightest damage due to the freezing, etc. Formation of ice crystals, denaturation of proteins by salt concentrations, etc. etc. caused no damage. They behaved as though the freezing and thawing operations had not taken place AT ALL. --Sincerely yours, -A.L.D.

Editor's comment:

Certainly we should explore all areas of natural cold to reduce costs and increase safety. The moons of Jupiter have also been suggested. The Antarctic may provide safe storage in the nearer future if not as ideally frigid. One question about the "dark" side of the moon, however. Doesn't the sun pay equal respects to all sides of the moon, except slightly less to the polar regions, as the moon revolves with respect to the sun but not with respect to us earthlings? -- This doesn't vitiate your idea. It only means the need for some cryogenic engineering. In fact Neil Ruzic author of "The Case for Going to the Moon" has already patented a lunar cryostat (very cold refrigerator). His moon refrigerator is a series of dish-shaped insulators and reflectors from inches to thousands of feet across. He too sees the moon as an excellent place for cryogenic research.

133,000 PEOPLE DIE EACH DAY. NEVERTHELESS, THE FREEZINGS HAVE BEGUN.

The average person thinks population growth can be checked, for it is perhaps the world's best known problem, but he is skeptical or unaware that anything can be attempted to avoid the finality of death.

The planet is still a huge ball of life. Some statistics of life and death are often incomprehensible. Nevertheless, let us try to place in our minds some of the latest figures as brought to us by the United Nations Demographic Yearbook and news reports.

About 133,000 persons die each day. About 1/10th starve to death. Heart disease is thought to be a major killer among the rich. It is perhaps less comprehensible to say that between 48 and 56 million, or between 1 and 2%, die per year out of a current 3½ billion people. We can visualise better 5,540 dieing each hour or easier still 100 people dieing each minute. Enough people die each 30 seconds to almost stretch the length of a football field. Or, people die as fast as we could count them at a rapid clip: One, two, three, four, five, six, etc. at double time.

-So, what do we do about it? True to our variable human propensities even some of the most pioneering freezers say, "Let them die in peace!"!!

However, a start has been made with at least four persons frozen and three remaining in that condition. There have been statements of as many as six frozen but source is questionable and we await verification.

No matter what the exact number frozen, the movement now has enough impetus that the ideas are gestating and growth will continue. The statistics of life and death indicate the obvious: a world of prospects. The question is how soon and how many will develop the confidence that they might partake of a vastly extended future with a little foresight and effort.

LES NEEDS A VOLUNTEER EXECUTIVE DIRECTOR. In the distant future LES might be able to hire an executive director. But for the present all we have is lots of office work piled sky high. A retired or independent person suitable to LES needs is needed in the Washington area. If you have time and the ability to be of service to others don't hesitate to write us.

CRYONICS CONFERENCE. A Cryonics Conference took place in New York City on the second weekend of March. About 100 persons were reported to have attended, a good conference though some of the expected notables did not arrive. Robert Nelson, author of a new paperback "We Froze the First Human" spoke at the conference. (If any of our readers read his book we would appreciate comments for a review at a later date.)

LES LOCAL DC MEETING. Georgetown Library, 7:30pm April 16th.

COLD HUMOR (by our inimitable young sparkplug, Jerry Cullins)

Death is nature's way of getting people
to stop smoking.

Cryobiology is the study of keeping cool while
your income tax is being checked.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Dr. Brunol(79 Patrician Way, 3F, Pasadena, Calif.), Bob Ettinger, and Dr. Roy, all of whom have made themselves available for the best of advice and help in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
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SUBSCRIPTION AND LES MEMBERSHIP. Students \$1. Regular member \$2. Contributing \$5. Life \$150 (contrary to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help, but at present and in the past we do all of the work cooperatively. No salaries or monies of any kind are paid to anyone in LES.

THE FIFTH LES FWR CONFERENCE SCHEDULED FOR JUNE 8-9, IN WASHINGTON

PLEASE INFORM US IF YOU INTEND TO COME

The weekend of the 8th and 9th of June, when the academic year is completed, but before summer activities have begun, has been decided upon for our next conference. Speakers, papers, discussion on the 8th, carrying over to the 9th with a visit to facilities is planned. The cost is \$5 and we hope to have this cover the cost of your lunch on the 8th. The conference is expected to be very small, very quiet, and very informal. Too much of our energy is going into the building of facilities to have an elaborate conference. ...And now a pep talk sent in by our wonderful young LES sparkplug, Jerry Cullins:

"MEMBERS RALLY!" "Members of LES, so far I believe we have done a good job. But it is my belief that the conference deserves more support. Every LES member should try to come. But not if it would ruin their finances or be injurious to their health. Members should try to get there not only because of the exchange of information but to show support in our cause. We must not weaken in the face of stubborn resistance. So let's go to work." RIGHT NOW WHAT WE NEED TO KNOW IS IF YOU DEFINITELY INTEND TO COME IN ORDER TO BETTER MAKE ARRANGEMENTS. Tear off this form and send, or simply drop us a postcard. Do it now.

Name _____ Address _____

☐ Yes, I intend to attend the conference June 8th? and 9th?
If you are driving would you accept riders? _____. Do you need a ride? ____
I will enclose a check or other later _____. (For those who wish to include a check now, please indicate amount _____.)

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Costa Mesa, Calif	(see next FWR)	Gregory Fahy
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
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LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have
 offices as yet. •.



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

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Spring, the LES building and lumber before the carpenters began the roof.

THE PROSPECTS FOR REANIMATION IN THE FUTURE

by Ronald Saltinski

There appears to be one basic consideration of the cryogenic thesis that has not yet really undergone analysis for purpose of substantially supporting the final outcome of such a thesis --- the reanimation of cryogenically suspended human beings sometime in the future. There are at this point in the growth of a cryogenics theory, two underlying assumptions. There is the basic assumption that future scientific, medical, and technological states of the art will be fully capable of reanimating persons who had been suspended for a long period of time. The second assumption is simply that a future society will have the inherent desire to undertake whatever steps are necessary for reanimating suspended human beings.

EVIDENCE for such optimism regarding the first assumption is really quite obvious. In viewing the present trend and rate of scientific, medical, and technological progress, there is little doubt that the future levels of progress in these areas of endeavor will not be fully

-copyright 1968-

capable of reanimating persons from the suspended state and implementing various correctional procedures. Such a future society, given enough time, will in all probability have under control the aging process and have developed the theory of gene engineering to such a point that persons born at that time may well have benefit of an indefinite life span. Consequently, there is a high degree of probability that on the assumption just discussed, that when a person presently living eventually dies, that he can be cryogenically suspended, that at a future time, there will exist techniques for reanimating his body, and that with various correctional implementations to restore him to full and normal health, that he will finally have benefit of an infinite life span.

THE SECOND ASSUMPTION regarding a future society and its desire to reanimate suspended persons is really not supported by any concrete evidence --- at any rate upon evidence from the somewhat pessimistic trend of social and cultural evolution. The assumption that a future society will have the said desire at this point is purely speculative in nature. Such an assumption should be open to an enquiring doubt, especially when the various alternatives that a future society may select from are seriously considered. In reality, the success of the cryogenics theory rests not upon scientific and technological assumptions but upon the possible desire of a future society to carry out the final steps of the cryogenic theory.

PERSONS WHO ARE SERIOUSLY CONSIDERING cryogenic suspension of their bodies should confront themselves with an analysis and evaluation of this latter assumption. In essence, the true test of the cryogenics thesis should be stated as: Does there exist a high degree of probability that a future society will reanimate persons from the suspended state --- high enough probability to warrant the sacrifice of some degree of an individual's life which he presently has (sacrifice in the sense that time and finances are involved) for a life which he hopes to have in the future.

THERE IS AT PRESENT when regarding the historical development of societies, evidence which indicates to the contrary that any optimism can be generated for any faith in any future society with regard to the presence of any desire for reanimating suspended human beings. The time element appears to be an important factor in evaluating this conclusion. Some individuals have estimated that the time involved with regard to technically reanimating a person is on the order of only 50 to 100 years. Other estimates put the time as being closer to 300 to 500 years. Regardless of the time element as a basis for the first assumption for technical capability, there exists the role of social progress during which this time span takes place. The short estimates of approximately 50 to 100 years are probably much too low for any concrete solutions to those present social problems which would almost certainly deter any attempts to reanimate suspended persons. These problems, of course, involve the population trends, food production, social unrest, war, and many other situations as well.

THE LONGER ESTIMATE of time, 300 to 500 years, may give rise to the above social problems such solutions as to remove them as barriers to the reanimation of suspended persons. While on the surface this appears to ease the situation, it in reality complicates the situation. Long periods of time in social evolution, while giving rise to solutions regarding short term problems, creates a very extensive change in the climate of attitudes, opinions, views, and ideas. In fact, our entire history is often classified according to these extensive socio-cultural-

psychological changes in human thinking. There is little reason not to believe that such changes will take place in the next 300 to 500 years. The question becomes one of whether the social climate in the future will allow the desire to reanimate those persons who have been suspended for several hundred years.

THERE ARE APPARENTLY SEVERAL CLASSES of alternatives which a future society in the next 300 to 500 years will have freedom to select from regarding the question of suspended persons.

- A. Decision to reanimate suspended persons.
 - 1. Reanimate a few.
 - 2. Reanimate many.
 - 3. Reanimate everyone.
- B. Decision against reanimation of suspended persons.
 - 1. Remain infinitely suspended.
 - 2. Remain indefinitely suspended.
- C. Decision to eliminate suspended persons.
 - 1. Destroy all, many, or a few suspended persons.

A FUTURE SOCIETY MAY DECIDE that for benefit of scientific curiosity that a few individuals would be reanimated. Success at reanimating a few would probably lessen any interest in reanimating many suspended persons. Successful reanimation for any one given individual need not mean that he has finally made it into a future that will reward him with an infinite life. Such a reanimated person may find himself the object of scientific and historical interest, much like an Egyptian mummy found in so many museums today. There is always the possibility that a nuclear war may have depleted a population to the point where the reanimation of many suspended persons would be considered essential. Of course, this process would probably be highly selective, in terms of just what kind of persons are needed. There is the added possibility that should a particular nuclear war be highly destructive and consequential radiation had destroyed or altered the human gene pool, then in all probability, all suspended persons would be reanimated for purpose of reestablishing a normal gene pool.

IN CONSIDERING THE DECISION of a future society to reanimate suspended persons, one must consider that no matter how advanced a particular society grows, its corresponding needs and services can only keep steady and most likely far behind. The decision to reanimate will involve the taxing of those scientific and medical services beyond their normal capacities. It is highly unlikely that a society would do this unless there was a definite need for those in the suspended state to become members of that society.

THE CONSEQUENCES of the above approach would lead to the second class of alternatives. While no desire to reanimate may exist, there may still be the desire to maintain those in the suspended state. The situation becomes one of frame of reference, the society viewing this state of affairs as one of infinite suspension and those who are suspended, if they could, viewing it as one of indefinite suspension. Either way no one is reanimated. Even if a future society should be less cost conscious than we are today, they would still most likely take a dim view of maintaining the original cryogenic centers and even a less enthusiastic view of up-dating them. The consequences could still be consistent with the second class of alternatives. The future society would most likely transport the majority of suspended persons to an environment where there is no need to maintain any special cryo-

genic centers. This environment, of course, would be outer space. Space technology at this future time may make such bulk transportation a relatively simple operation. The suspended persons may be put into special containers and left in parking orbits near the earth or perhaps even shipped to some planet or asteroid.

THERE HAVE BEEN SUGGESTIONS IN THE CRYOGENIC LITERATURE that a future society would feel the need to reanimate suspended persons on the basis of compassion. Without doubt, this is the weakest reason to believe that those of us who are suspended in years to come, will eventually wake one day in the far future. There is practically no evidence in the past history of our planet and especially at the present time that there is any growth of an attitude encompassing compassion of a realistic nature that would allow for the above conclusion. One should be aware that just because a society grows older that this does not mean that it grows more benevolent. This is simply to say that certain socio-cultural-psychological attitudes may motivate a future society to destroy all those who are cryogenically suspended. Perhaps a few might be maintained for museum purposes but otherwise all would be destroyed with about as much guilt as is now felt when an old graveyard is converted into a parking lot. Just how much compassion has existed today when one considers the intense belief and seriousness of the individuals committed to tombs in the pyramids? The removal and study of these individuals has been carried out with an academic and social attitude that their basis for being put into these pyramids was just so much nonsense. A modified version of this attitude could easily be envisioned for the future.

THERE IS THE POSSIBILITY that the future society may not be such a perfect situation because of our present inability to solve problems. Such a society may well exhibit psychological abnormalities to such a degree that they may even vent their anger against those who are suspended from a time when the conditions for the future society were created.

THE PROSPECTS FOR REANIMATION seem very dim when the responsibility lies with society in general. Yet, there is a possible solution to this dilemma. The above responsibility cannot possibly be left in the hands of the future society in general. The only real possibility for reanimation lies in maintaining a structurally intact cryogenics organization for the duration of the suspension period. This organization must maintain itself regardless of public support and even more important, maintain itself in the face of social rejection, scorn, and even violence. Such an organization for any very long period of time is a very difficult task. For example, despite the strength and intense motivation of Egyptian religious organizations, there was total breakdown of their attempts to retain belief in the "Book of the Dead". Other organizations have managed to survive for very long periods of time, but in most instances they are of a religious foundation. The fact that churches have withstood the rigors of war and social unrest indicates that perhaps even cryogenic centers can be maintained under similar conditions.

MOST INDIVIDUALS WHO ARE INTERESTED in being suspended one day are most likely not taking the time or making the effort with regard to making an organization that will stand hundreds of years and not simply be organized enough to suspend a person on the day of his death. Now is the time to make decisions for creating the underlying foundations for an organization that will not rely on the possibility that

society will assume the responsibility for reanimating suspended persons in the future. Should the future trend of social evolution create such a favorable situation, then this would insure that the organization would be able to reanimate suspended persons.

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THE AUTHOR, Ronald Saltinski, writes, "This manuscript has come about as the result of some informal discussions at Wayne State University where I am working on my doctorate in biology and science education. I thought that perhaps your readers might enjoy considering some of the ideas that originated during these 'laboratory coffee' breaks."

EDITORIAL COMMENT

The force of Saltinski's ideas is very strong. True, we tend to be euphoric and cheerful about the future as most of us are optimists. The author above suggests the road into the future may be more difficult than expected and we had better plan and organize carefully to expand our chance of survival. Whether the road is safe or treacherous it does make sense to lay our foundation and structure with care. There is no disagreement that we should prepare for adversity and consider anything better good fortune.

Whether the author is right about the absence of the growth of compassion, perhaps some of our readers will comment. True, a good portion of mankind is insanely spending hundreds of billions per year to kill his brother, wipe out his towns, destroy his crops, and prepare for more effective future destruction. But the magnitude of this perversity shouldn't blot out recognition of the growth of patterns of behavior which appear to be compassionate. This week's news brought the story of the discovery of the skull of another ancient man whose burial was in the kitchen. That is, his fellows ate him, which was common practice from North America to South Africa and elsewhere. We now take increasingly better care of the old, the infirm, the destitute, the useless, and even all other endangered species. Certainly there must have been some growth of compassionate action?

SCIENCE NOTES

SEVENTH HEART TRANSPLANT RECIPIENT DIES BUT BLAIBERG LIVES ON AND ON

Clovis Roblain, the retired truck driver, is dead after the use of the "too strong" heart of a person 43 years younger than himself. His life was extended only a little over two days with the second heart. The younger stronger heart dislodged clots from the bedridden system of the older man and swept these clots into his lungs. The proper therapy for clotting with others in the future should not be an impossible problem. Dr. Giraudon, Roblain's surgeon, stated "We will begin again, as soon as possible."

What gives transplant surgeons courage and confidence to try further heart transplants is largely the amazing extension of Dr. Blaiberg's life. That extension is now in the order of months. Blaiberg has reached such a point of recovery that he is home, he can drive his car, and he is writing a book.

BLOOD SUBSTITUTE DEVELOPED BY BIOCHEMIST

A milky blood substitute made in part from "Teflon" like compounds has been used to sustain the life of rats. The report was given by Dr. Robert P. Geyer, a Harvard biochemist, at the 52nd annual meeting of the Federation of American Societies for Experimental Biology at Atlantic City recently. The rats with synthetic blood survived at

Blood Substitute Developed by Biochemist

least eight hours sufficient to test many body functions. Blood substitutes show promise for sustaining the life of organs until needed for transplanting. By the same reasoning, and as noted in this newsletter previously, these synthetic substances could be used to delay cellular breakdown at death until freezing could be initiated. If further developed and available these substitutes could take some of the pressure away for immediate freezing at death in an emergency. A blood substitute is also needed for cooling the body via the blood vessel system below the temperature of about 11°C where normal blood begins to sludge and move too slowly. Dr. Kudo used another type of blood substitute when he cooled a young man to 5.6°C for more than an hour in a radical cancer operation at the Keio Medical School in Japan in 1963.

FOUNDATION FOR THE PROLONGATION OF HUMAN LIFE FORMED

Greg Fahy, our LES Costa Mesa coordinator writes about the foundation: "It is very new and very small, and getting information wasn't easy. But I can tell you that it is headed by Dr. Delbert Warwick and the address is 2093 Harbor Blvd, Costa Mesa, California. The purpose is to study aging.

THE ASSOCIATION FOR THE ADVANCEMENT OF AGING RESEARCH FORMED

The AAAR is one of many organizations which are growing in response to the need for and the expectation that aging control will eventually become practical. A brochure of this new organization states "The AAAR is a nonprofit organization whose sole purpose is the facilitation of research on the fundamental origins and complex expressions of the aging process. The association appears to be especially interested in presenting information and recommendations to congressional and governmental committees and individuals. Their administrative offices are at 3111 Second Avenue, Corona Del Mar, Calif., 92625.

LETTERS --- The editor has the feeling of doing an injustice to some of the individuals and members of LES who have written many excellent letters that should be reprinted. A number were written on the theme that an exact copy of a person would be unsatisfactory to the original person. The possibility of an approximate or exact copy seems to excite great interest and many puzzles. The hope is to continue with this copy discussion, plus all the other aspects of freezing, in issues to come. For the moment let us turn again to Greg Fahy's comments and wrestling-with, the transfer of information from brain to brain, when to freeze, and the proper balance of effort in the freezing movement's activities.

ON THE TRANSFER OF INFORMATION BRAIN TO BRAIN by Greg Fahy.

...Neurochemist George Ungar (Baylor University)(reported in Time Magazine, April 19, 1968) has confirmed that learned information can be transported into a brain chemically. His experiments consisted of conditioning a large group of rats to be afraid of the dark. A control group maintained its tendency to seek the dark. After extracts from the brains of fear-dark conditioned rats were injected in the controls, the latter became afraid of the dark the more extract was injected.

It seems to me that if such a quality as fear can be transmitted from one brain to another, perhaps the actual essence of a human could be imposed on another brain. Using duplicates made from the donor's body cells, a donor could have an exact duplicate of himself grown to whatever age he wanted. Then he could enter the unthinking body (the brain of the duplicate would have to be kept "mindless") by means of

a simple injection. It sounds far-out, but perhaps it could be done. Actual "rejuvenation" could be made a reality through the use of body-switching, and such switching could even make the freezing of a person unnecessary if duplicates were made ahead of time. I think this body-switching process could be perfected much sooner than the making of a duplicate were a duplicate not necessary to provide an "unused" brain. If a synthetic brain of some sort could be constructed that could receive the extract successfully, that would solve a great deal of the problem involved with duplicates. Perhaps all of this looks like something in the distant future, but freezing itself may also be in the moderately far future, and it is always important to consider every opportunity.

ON DR. BRUNOL AND DR LILLEHEI AND WHEN TO FREEZE

I was aware that my comment that not freezing now is "idiotic" might be construed to imply that I was in effect calling Dr. Lillehei and Dr. Brunol idiots. Please, nothing could be farther from the truth! But I do think that those dying now who DO very much want a chance for added life should not be denied that chance, no matter what the state of the art of freezing is. And money THEY spend CANNOT be wasted, as far as the frozen person is concerned. Unless the money of the dying person is spent on something calculated to help restore him to life, the money does not do him any good.

ON PUBLICITY, PUBLIC SUPPORT, RESEARCH AND ALLOCATION OF EFFORT

It might be adviseable to review the value of publicity and public support. Apparently Drs. Brunol and Lillehei feel that public acceptance of freezing is not as important as getting research going. There are two possibilities; 1) We need publicity to get support so that the funds which are necessary for research can come quickly and in sufficient quantity to solve the problems of freezing in time for us to benefit. 2) We will waste more time and money getting people interested than it is worth. Dr. Bedford has already been frozen and so have others. It seems that if simple publicity could do the trick, it would have gotten us considerable public support by now. If, as Dr. Brunol says, freezing could be perfected within 20 years, perhaps we should pour all of our resources into achieving this goal, with freezings on the side for those of us who are unfortunate enough to die too soon. Thus, our ranks might not increase by much, but we would achieve freezing in time and that would be what we are after. What have all the conventions, articles, TV appearances, etc. accomplished? We still have not gotten any huge inflow of contributions for research.

IT WOULD APPEAR TO ME that perhaps the simple freezing of those in our ranks who die as we wait for perfection of the freezing process would perhaps provide publicity enough, and that our other resources might better be spent with research. It all depends on the magnitude of the problem. Either freezing will be easy enough for us to get perfected by ourselves in time or else we have no choice but to appeal to the public. It would appear that a combination of the two is the best solution. But if more money is necessary for research and the publicity is not achieving what it should, we certainly ought to be aware of it and take steps to straighten things out.

Sincerely,
Greg Fahy, Costa Mesa, Calif.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Dr. Brunol(79 Patrician Way, 3F, Pasadena, Calif.), Bob Ettinger, and Dr. Roy, all of whom have made themselves available for the best of advice and help in freezing. Also Dr. Able (213) DR7-3153

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THE FIFTH LES FWR CONFERENCE JUNE 8-9

WASHINGTON, D.C.

PLEASE REGISTER IF YOU INTEND TO COME

Speakers, papers, discussion on the 8th, carrying over to the 9th with a visit to the LES building is planned. The cost is \$5 and we hope to have this cover the cost of your lunch on the 8th. THE CONFERENCE IS EXPECTED TO BE VERY SMALL, VERY QUIET, AND VERY INFORMAL. WE DO NOT HAVE NAME PERSONALITIES COMING AS FAR AS WE KNOW. THE FACILITIES WILL NOT BE COMPLETE WITH CRYOGENIC EQUIPMENT. The building and land will be there. We hope to have interesting discussions and a good time but above all we do not wish to lend the impression that this is a great event with much of interest to see in the way of equipment. The funds we have have been designated for land and building. The laboratory and storage equipment come later.

EVERYONE IS WELCOME, except perhaps those who only wish to use LES as a platform for their own organizations. Let us urge you all to come unless you would be endangering life, limb and finances to get here. New LES members especially welcome. Plan to present a 10 to 15 minute paper on a topic relevant to the freeze-wait-reanimate idea. Send papers or a copy in time for us to review them to the LES address below or to the Program Chairman, Ernest Karlsen, Apt 1624, 3201 Landover St. Alexandria, Va. If you cannot bring a paper, bring some interesting ideas for discussion. Register now so we have time for arrangements.

Tear off this form and send or drop us a letter. Do it now.

Name _____ Address _____

☐ Yes, I intend to attend the conference June 8th? and 9th? (Information will be sent on location of conference and luncheon. Sunday we will all go together to land and building.) If you are driving would you accept riders? _____. Do you need a ride? _____. Enclosed is a check for _____. (Send to LES, 2011 N St NW, Washington, D.C. 20036)

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Caracas		Kurt Bantelmann
Costa Mesa, Calif	(see next FWR)	Gregory Fahy
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Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
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Paris	INV. 58. 22	Française Coulon
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Rochester	(716)244-4469	Neil Shapiro
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South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
Swansea, G.B.	50989, 50988	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
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Tulsa, Oklahoma		Steve Reiner
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Vol. 4 No. 46
May 1968

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JUNE 8th & 9th
WASHINGTON DC

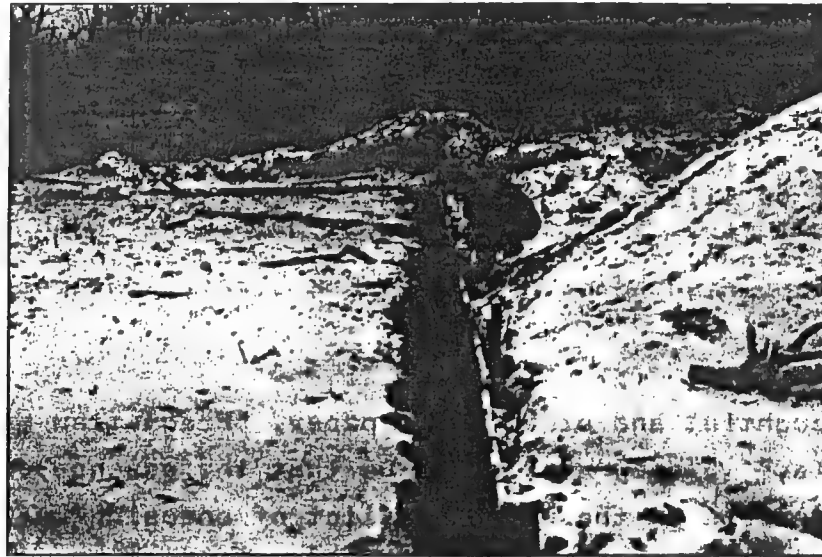


FREEZE - WAIT - REANIMATE

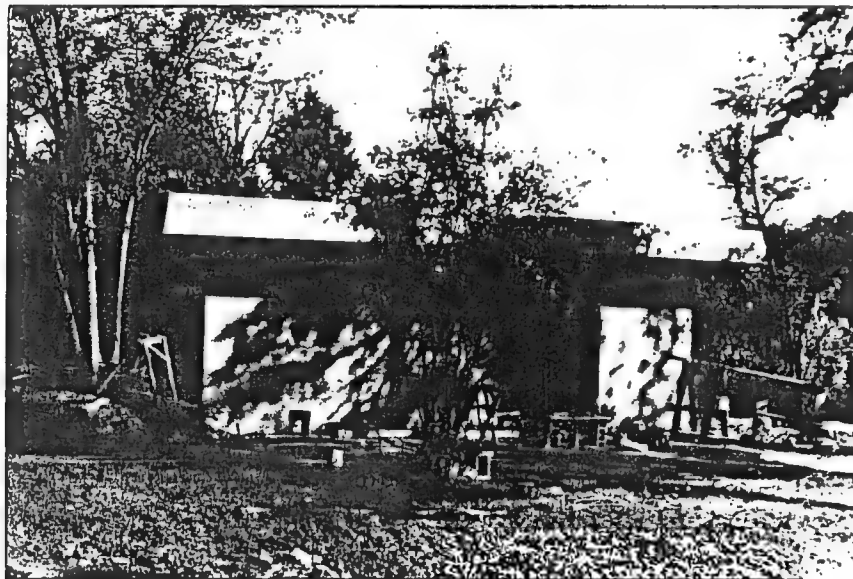
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WORK BEGINS ON FOUNDATION FOR LES BUILDING LAST WINTER



STILL UNFINISHED BUT OUR BUILDING BEGINS TO SHAPE UP
THIS SPRING

•.

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MISTAKEN ATTITUDES TOWARD DEATH
-A continuation by Corliss Lamont

Editor's note: Parts I and II were reprinted in previous newsletters numbers 41 and 42. We thank Dr. Lamont and The Journal of Philosophy (Volume LXII, No.2) for permission to reprint. In Part I Lamont discusses the romantic notion that it might be best to live intensely until age 40, let us say, and then die. Such a life would be deeper and more impassioned so goes the argument. Lamont believes that the threat of death far from bringing meaning to life brings ruin to love and life. Also a great proportion of the contributions to civilization come from the efforts of those past 40 not to mention the enjoyment they get out of life personally. In Part II Lamont indicates he would like to live forever should that become possible. With the variety possible in life he couldn't imagine ever becoming bored. Parts III and IV are reprinted below. We would be greatly interested in any reactions you might have?

III

In a thoughtful and provocative paper, "Pragmatism and the Tragic Sense of Life,"⁵ Sidney Hook tells us that the essence of tragedy in human life resides in the moral conflict of choosing between two ethical goods, between the good and the right (with the right representing obligation or duty), or between two rights. He discusses the implications of death for his theme and concludes that "death as such is not a tragic phenomenon and that its presence does not make the world and our experience within it tragic"(13).

Of course death as such in the economy of Nature and the course of biological development is clearly neither an evil nor a tragedy. Man would never have evolved had not the great institution of death given strictest meaning to the survival of the fittest in evolution and eliminated unprogressive species from the earth. Death has served man in another way. For ever since he appeared on this planet he has depended preponderantly upon the death of animal, plant, and vegetable forms for food, clothing, fuel, housing, and many other essentials of living.

Hook's discussion, however, pertains solely to the death of human beings. Life having brought them into existence, is it tragic that

5 Presidential address delivered at the Annual Meeting of the Eastern Division of The American Philosophical Association, Dec. 28-30, 1959, Proceedings and Addresses of The American Philosophical Association, 1959-1960 (Yellow Springs, Ohio: Antioch Press, 1960), pp. 5-26.

MISTAKEN ATTITUDES TOWARD DEATH -continued

death should terminate that existence? I certainly agree with Hook that death for human beings, despite all the grief and anguish it evokes, does not in itself justify the conclusion that man's life as a whole is tragic. But this does not logically rule out the judgment that death for some men or all men is "a tragic phenomenon."

With my disbelief in any sort of personal immortality, a position that Hook shares with me, I have come to think over the years that death, with all its implications, is a blow of such magnitude and finality that it is always a thing of tragic dimensions--to the person who dies, or his intimate survivors, and usually to both. If the deceased was widely known and beloved in the community, his death can be a tragedy for many people--indeed for millions or tens of millions--who were not personally acquainted with him. Such was the case when President John F. Kennedy was assassinated in November, 1963. Even when death is a relief from painful and incurable illness, it seems tragic that the only remedy should be the total obliteration of the personality. Obviously, when death strikes someone who is young or in the prime of life, the tragedy is worse.

For me there is tragedy, too, in the death of the old, even of those in their eighties and nineties. Some of the greatest scenes in literature concern the death of aged persons, throwing a searchlight on the living, such as that of the grandmother in Proust's Remembrance of Things Past and of the central character in Tolstoy's Death of Ivan Ilyich. As I said in my comments on Walter Kaufmann, I know a number of individuals over ninety who are still carrying on with wonderful vitality and mental acumen. Mankind can ill afford to lose such wise and useful citizens. And the death of anyone we love, no matter how advanced his age, stabs deep into the heart and leaves a lasting pang.

It is evident that, although I am in agreement with Hook's conception of the tragic insofar as it goes, I would extend the definition in accordance with more popular usage to include events that give rise to great suffering and sorrow. It is revealing that Webster's New International Dictionary includes "death" in the very meaning of "tragic." Its second definition of "tragic" reads: "Characterized by, or involving, death or calamity or the suffering implied in tragedy; terrible; calamitous."⁶

⁶ Webster's New International Dictionary of the English Language, 2nd ed. (Springfield, Mass.: Merriam, 1954), p.2685.

MISTAKEN ATTITUDES TOWARD DEATH -continued

In my opinion, death is additionally a tragedy because it represents a clash--and this is more in line with Hook's analysis-- between two goods or values that are basically inconsistent with each other. Death is a genuine value in that it ensures room upon this earth for the on-flowing, ever newborn generations of humanity. And as Hook observes, "it gives us some assurance that no evil or suffering lasts forever.... It washes the earth clean of what cannot be cleansed in any other way"(12)

At the same time non-death is hypothetically a value in that it would preserve human individuals with their almost limitless possibilities for growth, achievement, and happiness; would avert the wholesale waste of men and women of widest experience who have reached the peak of their social functioning; and would prevent the deep shock and enduring sorrow, often of a traumatic character, that come from the loss of loved ones.

IV

In my view, death is simply one of the many different kinds of tragedy that human beings encounter; yet unique because it is inevitable and universal. The mature philosopher never attempts to mask the tragic aspects of death. But he is not preoccupied with death; nor does he permit it, on account of the heartache and crisis it causes, to overshadow in his philosophy the other phases of human existence. Nor Does he cry out against death in the manner of Dylan Thomas in his lines:

Do not go gentle into that good night
Rage, rage against the dying of the light.

No, the wise man, be he philosopher or otherwise, looks at death with honesty, dignity, and calm, recognizing that the tragedy it brings is inherent in the great gift of life.

GENE CARRYING VIRUS MAY AID AGING CONTROL OF THE BRAIN. Other compounds may increase or decrease intelligence.

Holgar Hyden, famed Scandanavian researcher in neurobiology, reported at a conference in Boston recently that harmless virus could be used to carry new genetic material into the brain. The new genetic material could be designed to rejuvenate the brain by reactivating the manufacture of protein which many scientists believe is connected with memory, learning,

GENE CARRYING VIRUS MAY AID AGING CONTROL OF THE BRAIN. -continued and intelligence. Already Hyden has injected laboratory prepared brain DNA into animal brains and found within the hour a hundred fold increase in the production of specific proteins. Of course, the exact mechanism of memory is not known and in much dispute. Recently, however, Dr. Samuel Bogoch, of Boston, who worked with Hyden on brain experiments isolated a specific acidic protein that increased during learning in pigeons. Bogoch has little doubt that the same mechanism works in man. Bogoch stressed the potential for learning and intelligence. Hyden stressed the potential for rejuvenation and aging control of the brain. Carrying it one step further, it seems obvious if the brain can be stimulated to increase its capacity for mental activity--an organ that is notorious for its nonrejuvenating characteristics--it should be easier still to use the same process for the body or/and specific organs. (The conference was "The Future of the Brain Sciences" sponsored by the Foundation for Research on the Nervous System, of Boston, and the Manfred Sakel Institute of New York.) (Reported in the Santa Barbara News Press of May 5, 1968 and other AP newspapers.)

Research naturally is blossoming on how to increase intelligence. One of the earlier famous experiments involved the feeding of trained flatworms to ignorant flatworms resulting in instant learning and great dispute in the scientific community. The dispute continues, but more and more scientists are presenting devices for the increase of intelligence. Dr. David Krech, from Berkeley, states that strychnine (in tiny doses) and strychnine-like compounds can increase problem solving ability and puronycin can reduce intelligence. Though the experiments have been done on animals, Dr. Krech feels the same mechanisms apply to man and we should be thinking about the potentialities and the consequences. "I believe it would be irresponsible and perhaps even socially criminal not to make this extrapolation," he says. --Many of us in LES wish more scientists would make a similar extrapolation about freezing men from the basic experiments of Prof. Suda in freezing the cat's brain. (For more information about the control of Intelligence via compounds, see The New York Times, April 3, 1968)

HELEN KLINE DIED AND REPORTED FROZEN IN LOS ANGELES

An LES member in Los Angeles reports that Helen Kline died May 14th

HELEN KLINE -continued

and she was given to the custody of Bob Nelson with very little delay for freezing. The storage is reported to be with dry ice at least temporarily. Helen Kline worked very hard in the freezing movement for a considerable length of time previous to her lingering illness and eventual death. Russ Stanley, Helen's friend and our LES coordinator in Los Angeles, is reported to have given a large sum of money for her care.

Miss Kline is thought to be the sixth person frozen though it is very possible that more have been cryogenically stored and not reported for reasons of privacy, or because of imperfect or slow communication. As reported earlier the first person frozen was an elderly California lady by Ed Hope of Cryo-Care in Phoenix, Arizona. Later the family decided against continued cryogenic storage and had her buried. The second person was Prof. Bedford, frozen by Dr. Brunol and Robert Nelson. (Some reports indicate Dr. Brunol has now left the movement.)

Ed Hope indicates by phone that Dr. Bedford remains frozen with liquid nitrogen in a Cryo-Care capsule as does the fourth person frozen, a Michigan businessman. The third person is Marie Sweet reported on previously. According to reports from Arizona the fifth person is in a state of cryogenic limbo, dry ice and indecision as to whether to go ahead with liquid nitrogen storage or not. As time passes it may become more common for individuals to be held in dry ice until thoughts and resources can be collected. Thus it may also be increasingly difficult to give exact numbers of those frozen.

LETTERS

(Some Free-Wheeling Ideas About the Brain and the Future)

Dear Sir,

The future will have no trouble artificially producing new and better extensions of the brain, therefore only the brain need be suspended damage free. Following this line of thought, how about research on transferring the programming of our organic computer to a more permanent physical record? Then the future could reprogram the brain of a host body, grown in the organic banks of the Organic Construction Foundation, with our memories. We would be the SAME person, except with improvements as to brain capacity (I.Q.), and physical health. If we could transfer our organic programming, we would probably prefer to exist in a more efficient mechanical form, rather than a mere organic blob. Doubtless any animal sensual characteristics we now possess could be duplicated and improved upon. Also, several copies of our programming record (memory

FWR IV(46)7

LETTERS -continued.

(About the Brain and the Future)

banks) would insure immortality. This idea is not absurd, especially to those entities who realize that we=mind=brain, and that the body-soul concept is irrelevant.

Well, in any event, I believe there are numerous ways to extend life other than cryo-suspension.

Sincere Supporter;
David Lemes, Joplin, Missouri

(The following comment was found on the bottom of the subscription-due and membership form)

CREEPING FORWARD...AMEN

I am confident that LES will be a realization one day to come; I read very carefully every comment pro or con. I have a lot of documentation which would be too long to write; meanwhile would you please read Isaiah ch. 25-v.8, Corinthians 1, ch. 15-v.26 and in the Book of Wisdom ch. 1-v.13. God always acted through the good will of the human mind; it will be so in this case too, one day to come. As for yourself keep on to be honest and dedicated, creeping straight forward to success.

Mrs. J. O'Breham
-Province of Quebec, Canada

CANADIAN FIRM REPORTS IT HAS A SUITABLE BUILDING FOR STORAGE

Mr. Jack B. Jones, President of the Nova Construction Co., Ltd. reports that his company has a suitable building for cryogenic storage. This is a profit making organization with no connection with LES. However, LES wishes to report any facilities that could aid in freezing wherever possible. The location is Saint John, New Brunswick, Canada. The phone is (506) 693-7110.

FIFTH LES FWR CONFERENCE SCHEDULED FOR THE WILLARD HOTEL, WASHINGTON, D.C., JUNE 8TH. JUNE 9TH AT THE LES BUILDING.

With some trepidation and several warnings, as well as a few words of encouragement, LES presents an approximate description of our forthcoming conference. We would like to stress: THE CONFERENCE IS EXPECTED TO BE VERY SMALL, VERY QUIET, AND VERY INFORMAL. WE DO NOT HAVE NAME PERSONALITIES COMING AS FAR AS WE KNOW. THE FACILITIES WILL NOT BE

FWR CONFERENCE, WILLARD HOTEL, 14TH & PENNSYLVANIA AVENUE, WASHINGTON.
-continued.

COMPLETE WITH CRYOGENIC EQUIPMENT. We do plan to have speakers and papers and discussion on the 8th in Washington at the Willard Hotel. The conference will carry over to the 9th with a visit out of town to the LES building, or we should say shell of a building for it is far from complete. However, the building and land will be there; we hope to have interesting discussions and a good time, but above all we do not wish to lend the impression that this is a great event with anything of interest to see in the way of equipment. The funds we have have been designated for land and building. The laboratory and storage equipment come later. We will have to share rides to the building which is a long way out of town.

THE COST IS \$5 and we hope to have this cover the cost of your lunch on the 8th. EVERYONE IS WELCOME (except perhaps those who only wish to use LES as a platform for their own organizations). Let us urge you all to come unless you would endanger life and limb to get here. PLEASE REGISTER AND LET US KNOW IF YOU INTEND TO COME. Send a check by mail if you think it will reach us in time, or/and phone (202)723-5397 evenings. Hotel reservations are not expected to be needed for business is slack in Washington and plenty of rooms are available.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Dr. Brunol(79 Patrician Way, 3F, Pasadena, Calif.), Bob Ettinger, and Dr. Roy, all of whom have made themselves available for the best of advice and help in freezing. Also Dr. Able (213) OR7-3153

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo(East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

-continued on last page-

Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrresbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Costa Mesa, Calif	(714)546-3454	Gregory Fahy
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach (Cal,)	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	Albert Campbell
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48114 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
Ladybrand, S.Afr.	2501-Ext 136	Robert Marin
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Manhattan, (NYC)	(212)MO3-3833	Emmett Baker Groseclose.
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
Nagpur, India		S.S. Zadgaonkar
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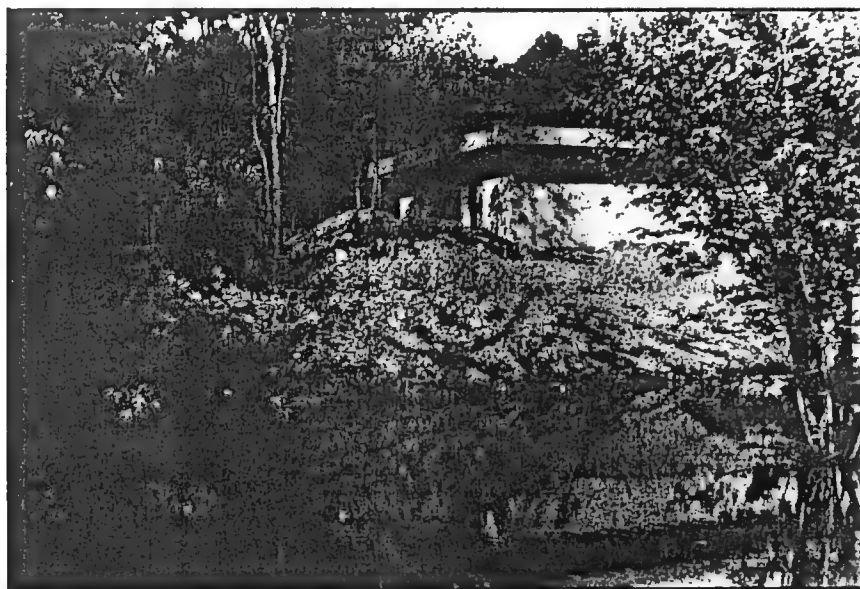


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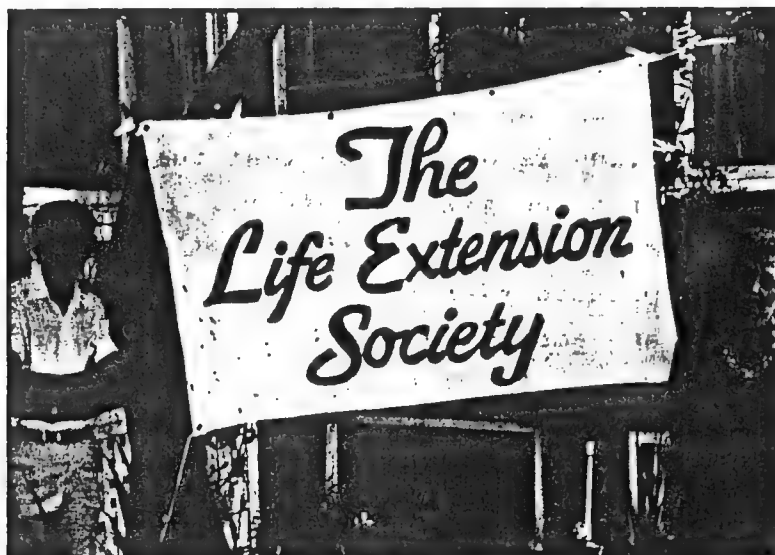
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LES building with pond in front, but before landscaping.



LES in Los Angeles wants to let you know about their monthly meetings. See page 7.

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THE DEAD CONSIDERED AS PATIENTS

A small movement is in process in which the recently dead person is increasingly considered as a patient to be cured. These extra attempts to revivify the dead are the natural outgrowth of successful scientific procedures and an increased value placed on extending life. This movement is also the result of an awareness that death is an extremely relative phenomena differing in definition and finality depending on time, place and status. In the past when a person's heart and breathing stopped the person was considered dead permanently.

Now when a person's heart and breathing stop a question of possible revival is posed whether resuscitation, heart massage, drugs or shock might return the person to life. In the more progressive hospitals there is no question whether or not to attempt revival for the attempt is automatically instituted until the patient either recovers or is deemed hopeless. In less progressive or less fortunate hospitals the attempt is either not made or the attempt is made on both social and physical considerations.

David Sudnow, California sociologist, has studied the treatment of the recently dead in a county charitable hospital in the West and a more well-to-do hospital in the Mid-west. He stresses how much age and status determine the effort made to revive the person. We know how the ultimate effort is made to revive a recently dead ruler. At the other end of the status spectrum Sudnow found that alcoholics and those thought to be of low moral character were neglected.

Somehow the valuation is often made that the aged and those of low status are not worth the reviving effort. The young, however, are given the maximum reviving attempt (as well as those of high status) presumeably because they have a long potential life and have an immediate visual and emotional appeal to doctors and nurses. If one is older, Sudnow suggests, "If one anticipates a critical heart attack, he had best keep himself well-dressed and his breath clean if there is a likelihood he will be brought into County as a 'possible'". (Trans-action, November 1967) The sociologist observed one intern who was willing to give mouth to mouth resuscitation to a child (and did) but would not for an elderly woman brought in the same evening in relatively the same condition or state of dying or death. The intern

THE DEAD CONSIDERED AS PATIENTS -continued

stated shortly thereafter that he could never bring himself to put his mouth to "an old lady's like that."

If the all-too-human emotions impede helping some patients and accelerate aid to others, the total movement tends toward greater aid toward all even after death. Presumably the greater the concern and effort with the recently dead as patients the easier it will become to accept suspended animation and freezing procedures when all attempts at immediate resuscitation are of no avail.

Further Reading:

Awareness of Dying, B. Glaser & A. Strauss, Aldine Press, 1965.

Death, Property and the Ancestors, J. Goody, Stanford Press, 1962.

Passing On: The Social Organization of Dying, D. Sudnow, Prentice-Hall, Inc., 1968

The Meaning of Death, H. Feifel, McGraw-Hill Book Co., 1959.

(Trans-action, Social Science and Modern Society, a publication of Washington University, St. Louis, Missouri.)

PREVENTING OR DELAYING DEATH BY INTENSIVE HEART CARE UNITS

Bernard Lown, writing in this month's Scientific American surveys some of the latest advances in intensive hospital care for heart patients. He estimates that with modern units 60,000 persons in this country alone could live considerably extended normal lives each year instead of dying of heart attacks. He is quite aware of preventive medicine and suggests close attention to minor symptoms. He seems to approve of "flying" (rapid) ambulance squads being pioneered in Belfast, Ireland. His stress, however, is on preventing attacks once the person is in the hospital via extremely careful electronic monitoring and the use of drugs. If the patient's heart falters or death occurs, the institution of emergency resuscitation is automatic. There are 1.5 million coronary attacks in the U.S. each year. 600,000 of these result in death. 200,000 attacks resulting in death occur in hospitals. Lown believes that modern intensive care units could reduce this number by a significant margin. Those who gained extended lives would have a mortality rate of 4% annually. ("Intensive Heart Care", Scientific American, July, 1968)

STABLE DNA MIGHT BE THE SOLUTION TO THE CONTROL OF AGING

Dr. Howard Curtis, a scientist at Brookhaven National Laboratories, reported to a symposium on medical chemistry at Laval University in Quebec that the DNA in short-lived or rapidly aging mice is unstable.

STABLE DNA FOR THE CONTROL OF AGING -continued

This instability of the organism's DNA "appear(s) to be initiated by DNA disruption in a single cell." As DNA regulates structure and function the disruption in one or more cells has undesirable consequences. If the cell or cells die this can begin to disrupt the organism. If DNA instability leads to wild growth the result may be cancer. If other cell chemistry is altered heart diseases, multiplesclerosis or other diseases may begin. The usually slower aging process may be a similar instability of DNA with one or more of the particular diseases precipitating death. Dr. Curtis has no specific prescription. He thinks, however, that he sees the problem in outline: The problem is one of a lack of knowledge about what forces stabilize large molecules such as DNA. Once this knowledge is obtained man should be able to apply it through treatment or genetic engineering to obtain some type of relative immortality. (New York Times, June 27, 1968)

AGE AND ATTITUDES TOWARD AGING IN THE U.S. GOVERNMENT

Chief Justice Earl Warren has recently written a letter made public indicating he will retire. He states his reason is "solely because of age." "The problem of age, however, is one that no man can combat and, therefore, eventually must bow to it." This is obviously the ordinary opinion of our day on aging. Only those who are extremely optimistic believe that practical aging control will come within the next several years, and certainly these optimists are outside of government as are those rash enough to believe freezing a rational alternative when all other hope is lost. Another person in government, Senator H. A. Williams has proposed that a study be made of the aging process. He would like to start a commission to research why people grow old. The study is apparently to take five years "to organize, interpret and analyze all available information on the aging process."

ATTITUDES ABOUT SOCIAL SECURITY AND FREEZING IN THE U.S GOVERNMENT

A really heartening attitude toward freezing has been shown by A.E. Hess, head of the Social Security Administration. He was asked if social security checks would continue to come for a frozen person who intended to be returned to life, say in ten years. Hess said he wasn't aware that any type of suspended animation was possible. When a person was frozen there would be a question whether his animation was

SOCIAL SECURITY AND FREEZING -continued

really suspended or just terminated. To resolve this question Social Security would hold the checks until competent medical authority indicated "that the person continued to be alive."

Problems of definition arise immediately. Can a person in suspended animation claim to be in an "alive" state? Does he act and function like a person "alive"? It is doubtful for has not his aliveness been suspended for a period? But then hasn't some degree of a person's aliveness been suspended while the person is asleep or in a coma? Added to these complications, suppose, as is the case with the current persons frozen, that the individual is first clinically and legally dead before the remaining life and potential future aliveness is placed in suspension. This latter type of qualified suspended animation is the type of suspension many or most individuals in the freezing movement believe to be a more accurate description.

Then there are the problems of "competent medical evidence" through various eras of time with their differing capabilities of reviving a person from the frozen state. Given the same person frozen in 1968 a series of truly competent medical evaluations can be imagined or/& projected as follows:

- 1970 "This frozen person is definitely dead by today's standards. There is no current method of reanimating him."
- 1980 "Though humans have been placed in the frozen state and been revived under ideal conditions, this particular person frozen in 1968 cannot be revived because the repair necessary is beyond our present capabilities."
- 1990 "If the World Health Agency for Medical Research would honor our recent request for research funds it is barely conceivable that our scientists could repair the person in question frozen since 1968 in liquid nitrogen."
- 2000 "Given the recent achievements of Puncher and Wattman showing that an experimentally malfrozen human can be perfectly reconstructed and reanimated we now have confidence the person frozen in 1968 has the potential for reanimation in the coming months. If our request for a Limitless I.Q. Computer is granted we shall be able to shorten the time....."

MEETINGS: PAST PRESENT AND FUTURE
LES CONFERENCE, JUNE 8TH AND 9TH

A very small "fifth annual" LES conference began at the Willard Hotel near downtown Washington on the morning after Robert Kennedy's body was taken to Arlington Cemetery. Though only 24 persons attended there was little noticeable gloom and the participants began an informal but spirited attack on the freezing and life extending problems of the present and future. The highlight of the conference was a paper given by Ted

LES CONFERENCE -continued

Brown on The Mechanism of Freezing Damage in Cells. A careful evaluation of the various theories was presented. A practical result of the paper and discussion afterwards was a suggested change in LES perfusion and freezing instructions. It is believed that DMSO should be introduced in a cold solution after the body has been cooled to 10°C. If possible the increasing concentration of DMSO should not exceed 20% of the balanced physiological saline. Ted Brown is a student of biophysics at The Graduate School of Johns Hopkins University. He has run a number of cryobiological experiments and is an LES coordinator for Baltimore.

E. Wesley Walton, LES Corresponding Secretary, presented a paper on the Aspects of Identity and Death. His prime contention was that the identity of a person is congruent with the person's entire body including the brain. Thus the person's identity will be carried forward into the future by freezing, assuming the reanimation re-establishes the person's original body and brain. In the discussion following Walton's presentation there was considerable difference of opinion on "copies". Supposing it is possible to freeze a person this year, is an identical copy of that person (produced in the more distant future) the same as the original person? Some thought that possible perhaps and as good as the original person. Those more demanding felt an exact copy could never be made, or if it were and the person knew he was a copy, then he would never be the same.

Judie Walton read a short work that Marie Phelps-Sweet had written before she died and was frozen. It was a plea for people to concern themselves with what might be scientifically possible for extending life such as cryogenic preservation.

In less formal discussion, among the many comments and suggestions by others, Paul Segall, a graduate student of biology at NYU, gave an almost impassioned account of possible aging control through tryptophan experiments. Previous researchers have found that tryptophan restricted diets seemed to halt aging or maturation. Paul plans if possible to do some tryptophan experiments of his own. His hypothesis is that aging is the sequential unfolding of the genetic instructions and tryptophan or other substances should be able to halt this genetic unfolding at a desired time and thus halt aging, or more accurately senescence.

Ev Cooper opened the meeting with a survey of the present situation and problems. One of the problems is to find a volunteer executive director or executive secretary to handle correspondence, office work and allied aid to the growth of LES. It was decided in discussions later to advertise both inside and outside of LES until we found a suitable person. Anyone knowing of such a person, please write?

Sunday, those interested and able to stay, shared transportation and drove about 75 miles into upper Maryland where the new LES building is located. There was informal picknicking, viewing of the incomplete building and the approximately 19 acres of land which includes a house and buildings of a very old farm. Except for five or seven acres of pasture the land is fairly heavily overgrown or wooded with a large stream perhaps 30 to 75 yards across, depending on where it is measured, bordering one side of the property. Almost any type of wild life indigenous to the general area can be found on the property. This brings up several other points of recommendation discussed at one or the other of the days of the conference. The importance of research was stressed quite heavily and found general accord with nearly all the participants.

IV(47)7

LES CONFERENCE -continued

Thus a general decision was made to stress completion of the laboratory part of the LES building and begin carrying out cryobiological experiments as soon as possible. Also in line with the preservation of life and research was a continuing discussion of the possibility of cryogenically storing tissue, cellular, or/egg specimens of all species in danger of extinction. The expectation is that with sufficient genetic material these endangered species could be reconstructed in the future provided they were cryogenically stored in the meantime. The cost of such storage is expected to be slight. It might aid in the extension of life of other species as well as extend the richness of life for our own species.

One of the last discussions Sunday afternoon was on the possible importance (not agreed to by all) of making sure LES remained independent and unentangled with other organizations in the same field of endeavor.

LES LOS ANGELES MEETING ON THE 3RD SUNDAY OF EACH MONTH

Russ Stanley and Rosario Coco, our LES coordinators in Los Angeles announce that a get-together meeting will be held the third Sunday of each month at the home of Mr. Coco, 834 Fifth Street, Hermosa Beach. The next meeting will be Sunday July 21st. All LES members and those interested are cordially invited. Please call FR 2-8075 or 6292702 for further information.

LES HOUSTON MEETING PLANNED FOR AUGUST 17TH

Bobbie Philips, our LES Houston coordinator, informs us she will be holding an LES meeting Saturday, 7:30pm at 10034 Timber Oak. Please give her a call at 468-1559 for further information if needed and to let her know you are coming. All LES members are urged to bring an interested friend as there are not too many LES members in the Houston area.

NEW YORK CITY (MANHATTAN) LES MEETING PLANNED NEAR LABOR DAY

If you happen to have noticed some ads for LES in the Village Voice this has been initiated by our Manhattan coordinator Mr. Emmett Baker Groseclose. He wishes to contact a sufficient number of interested people to hold a party, or social-discussion, about Labor Day. Please call MO 3-3833 for plans and information.

FIFTH ANNUAL MEETING OF THE SOCIETY FOR CRYOBIOLOGY, AUGUST 4TH - 7TH

About 60 scientific papers in cryobiology and allied sciences will be presented by the Society members and as many as 40 additional papers by non-Society members. The meetings will be held in Washington at the Sheraton Park Hotel. The meeting will be divided into four parts: discussion of research support, a conference on the cryopreservation of organs, a symposium on cryosurgery, and a symposium on environmental cryobiology.

At a later date we will have a more complete report of the meeting. However, most of the abstracts of the scientists' work have been published in the March-April 1968 issue of Cryobiology and some would seem to be of immediate interest to our society, the extension of life and the preservation of humans.

SOCIETY FOR CRYOBIOLOGY MEETING -continued

In the paper "Freezing of Bacteriophage T4Bos," S.P. Leibe and Peter Mazur believe they are the first to demonstrate in microorganisms that genetic changes lead to differences in resistance to freezing. Also they believe they have shown that the location of the freeze damage may be determined by genetic analysis. They obtained their results by freezing phages T4Bos and T4B and genetic complementation tests.

In a paper entitled "Temporary Suspension of Animation in Dogs by Means of Refrigerated Asanguine Perfusion", Gerald Klebanoff and Wilford Hall describe how they placed dogs in suspended animation for periods of 30 to 75 minutes. The method they used was to remove the dog's blood at the same time as they replaced it with a cold artificial perfusate. Virtually all of the blood could be removed and the temperature of the animal lowered to 5-10°C within 20 minutes. At that point there is no breathing, heartbeat, or reflex. During the 30 to 75 minutes of death and suspended animation a very slight flow (10 cc per kg) of artificial perfusate was maintained. Resuscitation was obtained at the end of the suspension period by coursing warm blood through the animal and heart stimulation where necessary. The experimenters suggest that it should not be difficult to extend the suspended animation period in dogs to one and one half hours by slight alterations of the method.

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Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

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France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	Albert Campbell
Houston	(713)HO8-1559	Mrs. R.C. Philips
Hull, England	48114 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
Ladybrand, S.Afr.	2501-Ext 136	Robert Marin
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)629-2702	Russ Stanley
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Manhattan, (NYC)	(212)MO3-3833	Emmett Baker Groseclose.
Minneapolis	(612)522-9184	Richard Koplow
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Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
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Tulsa, Oklahoma		Steve Rainer
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LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
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 offices as yet. •.



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



Old farmhouse on LES property with pump and grape arbor in front.

A PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR, OR EXECUTIVE SECRETARY, OR VOLUNTEER HELP FOR LES IN THE WASHINGTON AREA.

LES has been too large and its problems too multifarious for some-time for the present staff to handle adequately. Our membership growth has been stopped as we did not have time to answer mail correctly. This meant that we could not advertise for new members for even if they were interested we could not take care of the mail. Old members fell by the way from the lack of proper attention. The newsletter is a month behind. A much greater number of problems are involved with our new LES research and storage building and surrounding property.

One solution to many of our problems is to locate intelligent volunteer help. If just a few duties were shifted to someone else, the entire organization would work better. We ask our readers to help

-copyright 1968-

us locate someone suitable. Locating a good volunteer should not be impossible. Certainly there are a few who have the time. Certainly there are some who feel they are surrounded by a sea of meaningless treadmill activity who will try anything to make a meaningful contribution to life. Some will see an obvious practical advantage that we thought of advertising in a lighter vein: "Free freezing if you die on the job."

We may exaggerate a trifle in the following list of opportunities, however, we wish to convey the idea there is a challenge. There is plenty to do.

Job outline: Answer mail, advertise the LES program, speak on radio, perform on TV, talk to groups, contribute articles to the newsletter, help put out the newsletter, interview experts in cryobiology, write articles for magazines and journals, perhaps write a book or two on the subject, locate research funds, apply for grants from foundations, help complete the research building, install laboratory equipment, help with the experiments, locate competent scientists, locate new members for the advisory council, help arrange the next elections, purchase a tractor and cutter to keep the jungle under control, see that the dam is made tight (same with the basement), remove snow from the rooves and roads in winter, keep the various buildings in repair, help with an occasional freezing if needed, kill the poisonous snakes and protect the beneficial ones, protect the wildlife on the property, get tissue specimens of all the endangered species and help preserve them in cryogenic storage, begin aging control research to achieve man's relative immortality (or a greatly extended lifespan) if possible, entertain visitors, give interviews, arrange conferences, keep abreast of the latest research, help with the bookkeeping and other office work, give guidance to coordinators, and attend monthly meetings as well as help arrange them. This is an incomplete list as well as including some trivia. Obviously we are also saying that the present staff is trying to do all this and more, but the tasks are too many and too great without additional volunteer help.

We make a plea for volunteers for dues would have to be raised too much, at our present size, to hire help. Many organizations have found they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money.

So, if you are the person we are looking for, please contact us. If you know of someone interested please urge them to action. Naturally we don't expect the volunteer to do everything listed above. Any help we can get, as mentioned before, would be a boon to LES.

There is not much LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. However, depending on the person's needs, we can mention that the old farmhouse, etc., would be available. As the photo on the first page indicates, it would be primitive living, something from the period 1850 to 1910. If it is currently primitive it does have relative isolation, peacefulness and all of the wildlife of the area from fish to pileated woodpeckers to deer. Possibly the farmhouse could be improved in time. It has three bedrooms, living room, kitchen, partially furnished including an electric stove and naturally an ice-box. The LES laboratory is the length of a football field or so away. Also on the property are, one dilapidated barn, other small buildings, fields, woodlands, streams and

A PLEA FOR VOLUNTEER HELP -continued

some very nice campsites.

Quite a number of alternatives exist. Ideally (perhaps) the executive director might be financially independent, or retired, and be able to relocate to Washington. If he or she were not financially independent it is also possible the person could use the farmhouse, devote part time to LES and work in one of the area towns. If the executive director did not need the farmhouse it would then be open for use by graduate school students to help with research, or a scientist on sabbatical who might like the semi-isolated environment to write or to engage in cryobiological or aging control research.

If any of the above interests you, or if you have any suggestions or ideas, please do write to us.

RUSS STANLEY DIES OF HEART ATTACK AND IS FROZEN IN LOS ANGELES

Russ Stanley, one of our Los Angeles coordinators, died under relatively unfavorable circumstances of heart trouble Friday afternoon September 6th. Though Russ died in an "intensive care" unit of the Santa Fe Medical Center, and apparently in competent medical hands, his wishes to be cooled immediately, perfused and frozen were delayed. The hospital or clinic would do nothing toward cooling as far as we know. Yet we are virtually positive the hospital and doctor had been notified of Russ' desires. Shortly after Russ died LES was notified and we requested that Russ be cooled immediately. The doctor in charge of Russ could not be located and the hospital would do nothing until the person in charge of Russ' affairs, Mr. Coco, could be located which naturally took precious time. We were able to locate not one doctor in the Los Angeles area who had previously cooperated with perfusions and freezings. It has previously been reported that Dr. Brunol had left the area. Dr. Able was reported away on a trip. Dr. Pilgeram could not be immediately contacted. As the brain cells deteriorate within a matter of minutes after death if cooling is not immediately begun, the only logical place to have the cooling, perfusion, and freezing initiated is in the hospital, clinic, or under competent medical or scientific control and supervision, especially if the person dies there. However, as the hospital apparently would not cooperate, Mr. Coco agreed to turn Russ' body over to people in the funeral industry, who Robert Nelson of Cryonics of California had helped organize, for perfusion and storage. At last report the body was perfused, though after considerable delay, and frozen with dry ice as is the case with Marie Sweet and Helen Kline.

-continued

RUSS STANLEY -continued

If the reluctance of the hospital to cool Russ is tragic there are other brighter aspects of Russ' most critical minutes and hours. First, Mrs. Walker took on the job of notifying people for help when she heard Russ had died. She did a superlative job quickly, intelligently, without reserve. Russ is also fortunate to have Mr. Coco who completely sympathetic with Russ' desires is more than competent to look out for his welfare and remaining affairs.

Let us try to learn from Russ' life and list in black and white what the rest of us can do from here on. If we wish to be frozen if death comes, we should do like Russ did tell everyone around of his wishes and make the best arrangements possible. In the Los Angeles area (and this applies similarly elsewhere) can we urge everyone to give Mr. Coco support in any remaining tasks with Russ' affairs and especially to knit together for an increasingly competent local organization and to prepare for the next emergency. It is obviously important to get hospitals and clinics to agree to respect the wishes of the person desiring cooling, perfusion and freezing, and utilize those nursing homes and clinics which have provided these services or part of them in the past.

STEVEN J. MANDELL DIES IN NEW YORK CITY AND IS FROZEN

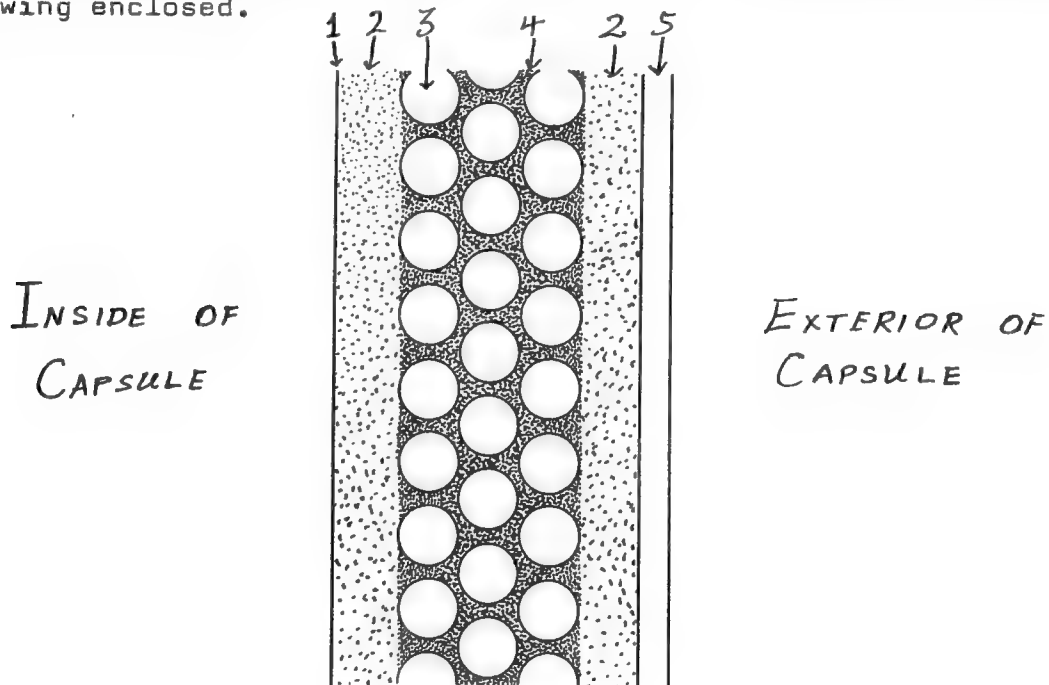
The first person to be frozen on the East Coast, Steven Mandell, died of intestinal inflammation in Columbia Presbyterian Hospital on July 28th. Young Mandell, age 24, was a member of the Cryonics Society of New York, a society dedicated to freezing preservation and reported to have about 75 members. Sometime after death Mandell's body was taken from the hospital morgue by a Long Island funeral director, packed in ice and taken to the funeral home about 50 miles distant. There the body was infused or perfused with a glycerol solution and then frozen with dry ice, to be transferred to a liquid nitrogen capsule at a later date. The storage is to be at the Washington Memorial Park in Coram. Mandell had previously set up a trust fund which was expected to provide \$200 per year for storage costs. The Cryonics Society has apparently made special efforts to encourage and work with the funeral industry in cryonic or cryogenic preservation.

LETTERS

Dear Mr. Cooper:

Many, many thanks for the material you sent me. Perhaps I can return a small bit of the favor now, for your statement that there must be a low cost solution with plastic started me thinking about how these plastic capsules might be improved at low cost and from readily available materials. I believe I know the direction to proceed but am unable to test it for lack of a working area and to a lesser extent, equipment. Someone else in our organization may be able to supply additional ideas. Maybe someone could even test the idea by building a capsule along these ideas. If it seems practical a folder could be prepared to distribute to those in need.

The first thing that came to my mind concerning plastics was that they work on the basis of a dead-air space for insulation rather than the much more efficient vacuum. What is needed, it would seem, is to in some manner give the effect of having an evacuated space within the walls of the container. Of course the plastic will not support a vacuum so we have to look elsewhere. The most readily available, low cost, evacuated structure I can think of is the used fluorescent light bulb. I suggest the walls of the capsules be constructed as shown in the drawing enclosed.



- 1 Aluminum or plastic to hold liquid nitrogen
- 2 Insulation such as styrofoam
- 3 Cross Section of fluorescent light bulb
- 4 Packing around light bulbs to prevent breakage
5. Wooden exterior

FWR 48(6)

LETTER -continued

.... This is not intended to be a final solution but rather a suggestion to try another slightly different approach. Any contributions to the idea will be appreciated.

Sincerely,

Leroy Catron -Florence, Ky

Editor's note:

In letters from Mr. Catron after the above letter, he suggested a rearrangement and respacing of the bulbs including four layers of bulbs instead of three as in the drawing. There are additional problems of the conduction of heat through the glass and the quality of the vacuum. Any suggestions from anyone?

LES LOS ANGELES MEETING ON THE 3RD SUNDAY OF EACH MONTH

There will be "Open House" and discussions at the Hermosa Beach home of coordinator Rosario Coco on the third Sunday of each month from 3:00pm on. The address is 834 5th Street, Hermosa Beach, Cal. and the phone number is FR 2-8075. Please try to attend; everyone is welcome and needed.

NEW YORK CITY (MANHATTAN) PLANS AND INFORMATION

LES coordinator Mr. Emmett Baker Groseclose has been active with ads in the Village Voice and would like to contact all interested in socials and discussions. Call MO 3-3833 for plans and information.

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The artist, Ernest Fiore's impression, of the new LES building.



FREEZE - WAIT - REANIMATE

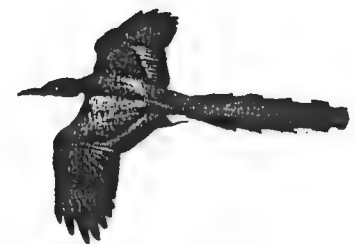
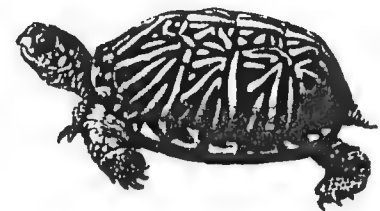
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WASHINGTON, D. C. 20036



The LES building in autumn.



CONTENTS:

Is LES to be symbolized by the turtle and the cuckoo?
Can an individual eventually duplicate himself?
How might cells damaged in freezing heal themselves?
Clues to aging studied in salmon
Letters
Misc. meetings, subscription, membership.
Information and Help.

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IS LES TO BE SYMBOLIZED BY THE TURTLE AND THE CUCKOO?

During the summer while some of us worked on the new LES building, we noted how frequently we would see and hear the long tailed yellow billed cuckoo and how often we would stumble over the box turtle. We wondered if this frequency had any special significance. More likely these thoughts were merely mental projections based on anxieties.

That cuckoo didn't bother us much. After all, he was a graceful fellow, more distant and usually we only heard his song. But the turtle we stumbled over was different. There he was right below and you could pick him up and see how tangible he was. ---Also, there was no denying how slowly the work on the building, and other LES work, was going.

We wish to give a fair hearing to the cuckoo as well as the other birds. You will probably run across him in our pages from time to time. Turtles are instructive for their ability to move ahead slowly, deliberately, with one of the best known defences, and even enter a type of suspended animation in winter. But we must learn to travel a little faster than the turtle. Can we ask your aid? To date we have not as yet located a volunteer executive director or other volunteer help. Reprinted below is the substance of last month's appeal. If you can publicize our appeal of locate someone for us, please do so.

A PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR, OR EXECUTIVE SECRETARY,
OR OTHER VOLUNTEER HELP FOR LES IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer help. Certainly there are some people who have the time. Certainly there are some who feel as if they are presently engaged in meaningless activities. We doubt that a person could find a more important area to work than in the extension of their own and other peoples lives.

We may exaggerate a trifle in the following list of opportunities, however, we wish to convey the idea there is a challenge. There is plenty to do.

Job outlines: Answer mail, advertise the LES program, speak on radio, perform on TV, talk to groups, contribute articles to the newsletter, help put out the newsletter, interview experts in cryobiology, write articles for magazines and journals, perhaps write a book or two on the subject, locate research funds, apply for grants from foundations, help complete the research building, install laboratory equipment, help with the experiments, locate competent scientists, locate new members for the advisory council, help arrange the next elections, purchase a tractor and cutter to keep the jungle under control, see that the dam is made tight (same with the basement), remove snow from the rooves and roads in winter, keep the various buildings in repair, help with an occasional freezing if needed, kill the poisonous snakes and protect the beneficial ones, protect the wildlife on the property, get tissue specimens of all the endangered species and help preserve them in cryogenic storage, begin aging control research to achieve man's relative immortality (or a greatly extended lifespan) if possible, entertain visitors, give interviews, arrange conferences, keep abreast of the latest research, help with the bookkeeping and other office work, give

A PLEA FOR VOLUNTEER HELP -continued

guidance to coordinators, and attend monthly meetings as well as help arrange them. This is an incomplete list as well as including some trivia. Obviously we are also saying that the present staff is trying to do all this and more, but the tasks are too many and too great without additional volunteer help.

We make a plea for volunteers for dues would have to be raised too much, at our present size, to hire help. Many organizations have found they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money.

So, if you are the person we are looking for, please contact us. If you know of someone interested please urge them to action. Naturally we don't expect the volunteer to do everything listed above. Any help we can get, as mentioned before, would be a boon to LES.

There is not much LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. However, depending on the person's needs, we can mention that the old farmhouse, etc., would be available. As the photo on the first page indicates, it would be primitive living, something from the period 1850 to 1910. If it is currently primitive it does have relative isolation, peacefulness and all of the wildlife of the area from fish to pileated woodpeckers to deer. Possibly the farmhouse could be improved in time. It has three bedrooms, living room, kitchen, partially furnished including an electric stove and naturally an ice-box. The LES laboratory is the length of a football field or so away. Also on the property are, one dilapidated barn, other small buildings, fields, woodlands, streams and some very nice campsites.

Quite a number of alternatives exist. Ideally (perhaps) the executive director might be financially independent, or retired, and be able to relocate to Washington. If he or she were not financially independent it is also possible the person could use the farmhouse, devote part time to LES and work in one of the area towns. If the executive director did not need the farmhouse it would then be open for use by graduate school students to help with research, or a scientist on sabbatical who might like the semi-isolated environment to write or to engage in cryobiological or aging control research.

If any of the above interests you, or if you have any suggestions or ideas, please do write to us.

CAN AN INDIVIDUAL EVENTUALLY DUPLICATE HIMSELF?

Yes, declare many of the science fiction authors, seconded by a few but increasing number of future oriented scientists. They back their predictions with the work of various laboratory workers who have duplicated plants and animals from single cells. Briggs and King, two scientific researchers, in the early 1950's were the first to perform nucleus transplants. Stewart, in the early 1950's, was the first to grow whole carrots from adult cells in the body of the carrot. Recently at Oxford University, Dr. John Gurdon, has reproduced frogs from single body cells of a growing or adult frog. The resulting frog is somatically and genetically the same: a twin in everything but age.

-continued-

CAN AN INDIVIDUAL EVENTUALLY DUPLICATE HIMSELF? -continued-

The method is to take a fertilized egg, the product of two frogs, destroy the nucleus and implant a new nucleus from one frog. Frog eggs are chosen because of their large size. Human eggs are about a hundredth as large. Correspondingly it is going to be immensely difficult to duplicate humans. However, it is probably only a matter of time and technique before it can be done with humans.

HOW MIGHT CELLS DAMAGED IN FREEZING HEAL THEMSELVES?

Everything seems to depend on the understanding and manipulation of RNA and DNA the hereditary instructions in cells. The 12th International Congress of Genetics in Japan in August attempted to cover and elucidate the mechanisms of cells which could lead to healing, evolutionary change, and even the control of cancer.

Scientists have found that the cell has an amazing ability to repair itself by cutting out and replacing genetic material that has been damaged. Mutations and perhaps cancer occur when this repair work is interfered with. Some think the cell has a monitoring process for the DNA. If the monitoring process finds damaged DNA, repair begins at once. However, it can be a constant battle between the elements such as X-rays, other radiation, potent chemicals, and viruses which interrupt cell functioning and the monitoring-repairing processes.

As the science of cryobiology is in its infancy as are the social arrangements for freezing humans, much "freezing" damage is going to occur. How might this damage be repaired in the future? Some of the keys obviously lie in a better understanding of this monitoring-repair process within the cells. If these repair processes can be initiated and aided within damaged cells the whole organism would have a better chance of survival.

Viruses often interrupt cellular repair just when the cell is most vulnerable. Discoveries reported at the 12th International Congress by Sol Spiegelman of the University of Illinois indicate that modified viral material can be introduced into cells which will keep disease viruses from reproducing. Spiegelman developed viral RNA which monopolized all the enzyme that disease producing viruses needed to reproduce. The same or similar innocuous viral RNA could be used in freezing damaged cells to inhibit the dangerous viruses.

(Further information on viral evolution, cell healing, and the 12th International Congress in articles by Robert Reinhold in issues of the New York Times including the August 21st issue.)

CLUES TO AGING STUDIED IN SALMON

As much may be learned from rapidly aging organisms as from slowly aging organisms in man's goal of slowing or stopping the aging process. A salmon changes from a gorgeous, slick, shiny fish to an infected, scurvy, scrofulous degenerate close to death within a two week period at spawning time. Dr. A.A. Benson, a biologist with Scripps Institution of Oceanography indicates that the fish seems to be partially if not wholly programmed for death after spawning. After the pituitary changes to abnormal size the other glands virtually burn up the fish.

Other researchers have noted that humans often lose weight and fat near the end of their normal lifespan. If death is brought about even in part by a program, it gives scientists a better handle to solve the control of aging.

LETTERS

AGING CONTROL VIA CRYOGENIC STORAGE OF YOUR DNA

Dr. John Heller, director of the New England Institute for Medical Research, speaking in the June issue of Playboy ("Second Genius" article by Max Gunther) of the possible cause of aging as modifications occurring over time in the DNA structure of our bodies, states that we could establish a youth bank when we are in our twenties. The bank would consist of a very small sample of skin cells stored at extremely low temperatures. Dr. Heller says that scientists in time could culture these cells to make larger amounts of the same DNA which would eventually be placed back in the same person's body. "This could retard aging for a long time--perhaps forever," states Dr. Heller.(p.154)

The nature and aim of the DNA storage Dr. Heller is speaking of gives it a lot of significance for the work of LES. Before I spell out, though, what I think this significance is, I should like to raise a few rather necessary questions on the subject.

One of these is the question of whether or not DNA, and modifications occurring in the DNA structure of an individual's cells as time goes on cause or regulate aging. This is not definitely known.

A second question--of special importance to us--is whether or not we can freeze (in liquid hydrogen or by other cryogenic means) the skin or other cells NOW with a reasonable chance of making from these LATER the culture of cells from which the DNA to be re-injected at intervals. Or is there any other way in which the body cells, or DNA itself of persons now young might be preserved? The thoughts of Dr. Brunol, et. al., and experts such as Dr. Heller, each approaching the question from the position of his own specialization, are needed.

A third question is whether the DNA reinjection process must begin and be regularly continued from a relatively early age, such as Dr. Heller's suggested 25, if it is to work at all, or if it could be used with good effects even if begun at 40, 50, or 60.

The aim of this DNA and/or cell storage is the same as that of cryogenic suspension and LES itself (although possibly on a shorter time scale): the extension of life and good health and vigor. If we inquire further into this matter and find that CRYOGENICS TODAY has a potential relation to, or potential contribution to make to the DNA "anti-aging" (and rejuvenation as well?) process of which Dr. Heller speaks, then LES attention to and activity in the field is in order. Perhaps research in skin-cell storage, and perhaps such storage itself would make a good initial use of the new LES laboratory building. Such research and storage may not, moreover, raise quite the complex problems of equipment, etc. involved in the freezing and storage of complete bodies.

The central concern of LES with the cryogenic suspension of bodies should of course continue. But might we have here a good--although of course different--second road to the aim of life and health extension? If DNA reinjection is not as promising or as exciting as cryogenic suspension in some ways, it has advantages and is significant for us in others. For instance, the inhibition, skepticism, and outright antagonism with which so many inevitably approach suspension should be less present in the approach of the public to this other form of life extension and efforts to bring it about. Moreover, this may well present a

AGING CONTROL VIA CRYOGENIC STORAGE OF YOUR DNA -continued-

way in which LES could act--directly, and unilaterally, but far better if indirectly too, as though pressure on university research institutions, private laboratories, the government, etc.-- right now to perform a potentially great future service for many persons, LES members and non-members alike, and tangibly.

Of course I am speaking here--and only provisionally, until we are fortunate enough to learn more--of a scientific possibility. But those of us who are young now, or at least still on the better side of things, have to act now, and hope that the "young" DNA we prudently store away cryogenically now might indeed be one day, thanks to scientific advance, a fantastic key to extended life and vigor. Nothing stands to be lost, certainly, but a little skin, and the possible reward of extra life in years to come would be very great indeed.

-Sincerely, and with endless best regards,
Gregory Wright, Stanford-in-Britain, Eng.

LES LOS ANGELES MEETING ON THE 3RD SUNDAY OF EACH MONTH

Open House and discussions at the Hermosa Beach (834 5th St.) home of coordinator Rosario Coco on the third Sunday of each month from 3:00pm on. Please try to attend: everyone is welcome. Phone FR 2-8075.

NEW YORK CITY (MANHATTAN) PLANS AND INFORMATION

LES coordinator Mr. Emmett Baker Groseclose has been active with ads in the Village Voice and would like to contact all interested in socials and discussions. Call MO 3-3833 for plans and information.

SUBSCRIPTION AND LES MEMBERSHIP. Students \$1. Regular Member \$2. Contributing \$5. Life \$150 (contrary to the \$100 figure on some of the older forms). FWR goes to all members. Subscription alone \$2. --How do we do it so inexpensively? In the future we expect to hire outside help, but at present and in the past we do all the work cooperatively. No salaries or monies of any kind are paid to anyone in LES.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of LES coordinators are new. We don't know every coordinator personally, but we hope we have made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she is capable of doing. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Dr. Brunol (79 Patrician Way, 3F, Pasadena, Calif.), Bob Ettinger, and Dr. Roy, all of whom have made themselves available for the best of advice and help in freezing. Also Dr. Able (213) OR7-3153

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246
Alamo (East SF Bay)	(415)837-6017	Mrs. Harvey DeCovnick
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

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Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella
Caracas		Kurt Bantelmann
Costa Mesa, Calif	(714)546-3454	Gregory Fahy
Castleton, Vt.	(802)265-3891	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
Concord, N.C.	(704)782-7800	Jerry Cullins (after 4pm)
Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach (Cal.)	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	Albert Campbell
Houston	(713)H08-1559	Mrs. R.C. Philips
Hull, England	48114 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
Ladybrand, S.Afr.	2501-Ext 136	Robert Marin
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr. Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)FR2-8075	Rosario Coco
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Manhattan, (NYC)	(212)MO3-3833	Emmett Baker Groseclose.
Minneapolis	(612)522-9184	Richard Koplou
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nancy, France	53-50-30	Dr. Emile Leclerc (M.D.)
Nagpur, India		S.S. Zadgaonkar
Ohio, Cleveland	(216)662-7115	Jan Novak
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Française Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Sunland, Calif.	(213)353-3134	Terry Olwell
Toronto (Etobicoke)	(416)252-1467	Barry Needler (after 5pm only)
Swansea, G.B.	50989	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Toulon, France	92.70.15	Dr. Guillaume Roy (M.D.)
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

LIFE EXTENSION SOCIETY, 2011 "N" Street, N.W., Washington, D.C. 20036
 -This is our mailing address above. We are not large enough to have offices as yet.

Nonprofit
Tax-Exempt
Organization

A



Life Extension Society
2011 "N" Street N.W.
Washington, D.C. 20036



The artist, Ernest Fiore's, impression of the new LES building.



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



LES building and pond in fall.

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Note on this newsletter.

Note of apology to our correspondents
and some recent progress

A plea for a volunteer executive director.

Information and help: coordinator's pages.

WHY HAVE SO FEW BEEN FROZEN?

When one considers that a person's life and death are normally the ultimate concerns of the individual, why is it that so few have taken a chance with freezing? We live in an age when people are urged to think for themselves. Why haven't more persons faced with death come to the conclusion that freezing is a possible doorway into the future? About 90 heart transplants have been performed to date. Heart transplants began at about the same time as the first freezings. Yet one tenth as many freezings of humans have taken place. The overall cost of a heart transplant is probably much greater than for freezing. Freezing is an attempt for a future extension of life when everything else has failed. Why is it so few have tried?

When the freezing movement first began, it was assumed that freezings would rapidly follow publicity and the circulation of the idea. We assumed the movement would rapidly snowball. The hypothesis got wide publicity both before and after the first freezings. The freezing of Prof. Bedford got favorable world-wide attention in depth. It is true that modern life and the mass media present a million pushes and pulls and demands and avenues of action, almost too many for comprehension. However, only a few of these avenues of action have to do with the extension of life into the future, so the publicity factor is no longer considered the crucial factor in the lack of acceptance of the program.

The following are six areas or factors presented for discussion as causes for the rather slow acceptance of the freezing program. (We would be glad to hear from our readers on this problem and will reprint some of the response in future newsletters.)

(1) It seems the public is apathetic about the possibilities of extended life and of their own particular death. They must feel that really nothing practical can be done. Nearly all discussions return to the fact of the 'hideous' strength of the status quo. Mr. Brown doesn't believe that freezing at death is a reasonable thing to do, because Mr. Jones, his neighbor, doesn't believe in freezing, or only half believes it a reasonable thing to do. Mr. Jones doesn't believe in freezing because his doctor or "expert" opinion doesn't believe in freezing. One of the great aids to the freezing movement probably lies in favorable "expert" opinion. More of what controls this opinion can be seen below.

(2) Expert opinion covers whether it can be done and whether it is worthwhile even if it can be done. We will consider the worthwhile question in #6 below. As to whether it can be done, most scientists are rather careful not to say it cannot be done. A few will predict that freezing, storage, and reanimation can eventually be accomplished. Most who are doubtful at this stage are doubtful through a lack of information and a lack of satisfying experimental results. Prof. Suda in Japan successfully froze, stored, and reanimated a cat's brain. Many scientists do not know of this work, and many who do may be unwilling to accept that if it can be done for a cat it can be done for a human eventually.

What the average scientist wants is for the entire freeze-wait-reanimate experiment to be carried to a successful conclusion before he will believe in it. This is normal and natural enough, but because of the immaturity of cryobiology at these moments in time, the nature of our hypothesis and experiment differs slightly from the traditional scientific experiment.

WHY HAVE SO FEW BEEN FROZEN? -continued

(3) When most scientific experiments take a few hours or a few years in an unusual instance, an experiment that might take a century is probably quite difficult to intellectually internalize. As we have said previously, traditional science proceeds by a series of steps: A then B then C then D then E and then F. What we are proposing is that even though C and D are not now achieved, we can do E (freezing of the person at death) now and let future science solve the problems of C, D, and F. The only reason we rush the process is that we lose the dying or dead individual unless we take a chance now on future biological advances. This suggested time manipulation of the traditional sequences of science to practice is naturally too much for the average scientist to accept. A small to moderate number of scientists who are exposed to the idea and who are rather future oriented do accept the hypothesis of freeze-wait-reanimate, but these scientists are unusual.

Not only is an inversion of the traditional steps of an experiment difficult for an average scientist to accept, but it is difficult for him to accept that success for the entire experiment is possible even though we in our time perform step E, that of freezing, with imperfection. We are banking on future scientists making up for some of our imperfections.

As an aside, it is interesting to note that belief leading to action has not always been dependent on satisfying scientific results, or practical tangible results. Various religions have obtained the belief in an afterlife if the person did A, B, C, etc. They obtained this belief even though no one ever came back (provided you doubt some of the myths). Perhaps, however, the belief in an afterlife came into such currency indirectly as a survival device along with emotional and practical benefits for daily life provided by religious organizations.

(4) It goes almost by definition that better leaders and better organization(s) would advance the freezing movement at a faster pace.

(5) The decline of individualism is possibly a very important factor in the slow pace of freezing. Individualism has been attacked from all sides. The sheer increase in population throughout the world has made it such that the solution of social and economic problems demanded discipline more than the states needed individual variation. Individuals were made for or often sacrificed for the state rather than the state being made for the welfare of the individual. Scientists and biologists, some of them at least, questioned whether there was any constancy in the individual and if the concept had any real meaning. Ethics often equated individualism with selfishness though that didn't follow for all individualists.

Dr. Rollo May, a prominent psychoanalyst and writer, predicts the death of individualism. (NYTimes 11/25/68) Team work is now desired, not individuals driving for unusual success and self-aggrandizement, especially in the business world. May thinks that individualism is a myth along with many others. In his view myths "function to preserve mental health", are functional for a time, then it is well that they die and are replaced by other myths. Individualism may die but the individuals live on, but presumably their normal life-span. May is not against individuals but their previous excesses. Part of what some would term individualism he is for: "each individual must take his own stand with regard to them (the myths), attacking them, affirming them, molding them or lamenting their absence."

The person advocating freezing is sometimes accused of being too individualistic, too much for individualism, and too egocentric. Such

WHY HAVE SO FEW BEEN FROZEN? -continued

accusations need not be true, but probably even the fear of such accusations inhibits some from arranging for freezing in the event of death. When we take an actual instance of Marie Phelps-Sweet, who was frozen, we find a person who devoted her life to others. Shortly before she died she finished a tour of duty with Vista serving the American Indians. No matter the individual facts, the decline of individualism has probably had a dampening effect on the freezing movement.

(6) Lastly and most important (we will hypothesize for the moment) is a suspicion of the value of extending an individual human's life. This is one of the factors that isn't discussed too much. Western Civilization pays lip service to the value of the individual. If the individual were truly valued the extension of his life would be valued to a greater degree than it is. Part of the reason that it is not is that the scientist, and others, doubt the value of that extension to society or the species. The scientist is emphasized because he is such a leader in any scientific or futuristic program such as freezing. If the scientific leaders are doubtful and unenthusiastic, that apathy eventually filters down to Mr. Jones and Mr. Brown. A prime example of this attitude is to be found in the thought of one of the world's great scientists and humanists, H. J. Muller, Nobelist in genetics, who died in 1967. He wrote: "Death is an advantage to life. Its advantage lies chiefly in giving ampler opportunities for the genes of the newer generation to have their merits tested out ... by clearing the way for fresh starts." (Quoted in Science 15 November 1968).

As great as some of these men are who hold this view, we ask if it isn't possible that they have a pinched and narrow view of the possibilities of our future universe. Death is an advantage to life, for the most part, as far as we have observed it in the past. It doesn't follow that it will be necessary in the future, especially for every last individual. Death hasn't been necessary for life itself or for some species. As man and science build flexibility, or the chance of flexibility into the individual in the future with aging control, the results could be the same in one individual with an extended life as in a series of individuals who age and die.

For the moment, however, we are not interested in rectifying cramped views of the future, but in listing possible reasons why the freezing movement is progressing so slowly. (Or is it? Perhaps we should be thankful that as many are frozen?) We have suggested the apathy lies tangled in the status quo of received and non-enthusiastic "expert" opinion. In turn there is an absence of satisfying experimental results, in contrast to experimental heart transplants in dogs and apes, when we compare freezing to heart transplants. The nature of long run futuristic experiments is foreign to science and ill understood. Strong leaders and efficient organization have been missing including the general decline of individualism and a denial of the value of extended lives. We are sure we haven't exhausted the causes and welcome comment and other perspectives from our readers.

* * *

NOTE ON THIS NEWSLETTER

As can be noted by some of the dates above, this newsletter is running a month behind schedule. A make-up additional newsletter is being prepared to be included with a future regular issue. It will contain all of the information helpful to any person interested in arranging for freezing, such as: "freeze cards", will forms, instructions and the like.

NOTE OF APOLOGY TO OUR READERS AND CORRESPONDENTS

The decision has been made to place nearly all of our time and efforts into the completion of our LES laboratory and storage center. This we have done, resulting in a scandalous neglect of the mail, our correspondents, our membership, and our coordinators, not to mention the newsletters. Apologies go out to all of you that we have neglected. Our expectation is that it will not last forever (this neglect).

We have obtained some occasional additional volunteer help. Friends and members in the Washington area have helped weekends, working like Trojans until midnight, attempting to put the farmhouse in better shape for an expected arrival. It is generally agreed that we have it now in shape equivalent to slave quarters. One of our LES life members from Texas has volunteered to look at the place and possibly stay there, helping us some and doing some of his own work. Thankful as we are for this we are still in need of additional volunteer help and reprint below a previous month's appeal. The photo referred to was published in the August issue. If you can publicize our appeal or locate someone for us, please do so.

We especially apologize to those who deserve personal answers to their letters and to those we have neglected to get their letters and views included in the newsletter. As indicated above, we expect to do better with the correspondence when the laboratory is more nearly completed.

A PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR, OR EXECUTIVE SECRETARY,
OR OTHER VOLUNTEER HELP FOR LES IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer help. Certainly there are some people who have the time. Certainly there are some who feel as if they are presently engaged in meaningless activities. We doubt that a person could find a more important area to work than in the extension of their own and other peoples lives.

We may exaggerate a trifle in the following list of opportunities, however, we wish to convey the idea there is a challenge. There is plenty to do.

Job outline: Answer mail, advertise the LES program, speak on radio, perform on TV, talk to groups, contribute articles to the newsletter, help put out the newsletter, interview experts in cryobiology, write articles for magazines and journals, perhaps write a book or two on the subject, locate research funds, apply for grants from foundations, help complete the research building, install laboratory equipment, help with the experiments, locate competent scientists, locate new members for the advisory council, help arrange the next elections, purchase a tractor and cutter to keep the jungle under control, see that the dam is made tight (same with the basement), remove snow from the rooves and roads in winter, keep the various buildings in repair, help with an occasional freezing if needed, kill the poisonous snakes and protect the beneficial ones, protect the wildlife on the property, get tissue specimens of all the endangered species and help preserve them in cryogenic storage, begin aging control research to achieve man's relative immortality (or a greatly extended lifespan) if possible, entertain visitors, give interviews, arrange conferences, keep abreast of the latest research, help with the bookkeeping and other office work, give

A PLEA FOR VOLUNTEER HELP -continued

guidance to coordinators, and attend monthly meetings as well as help arrange them. This is an incomplete list as well as including some trivia. Obviously we are also saying that the present staff is trying to do all this and more, but the tasks are too many and too great without additional volunteer help.

We make a plea for volunteers for dues would have to be raised too much, at our present size, to hire help. Many organizations have found they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money.

So, if you are the person we are looking for, please contact us. If you know of someone interested please urge them to action. Naturally we don't expect the volunteer to do everything listed above. Any help we can get, as mentioned before, would be a boon to LES.

There is not much LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. However, depending on the person's needs, we can mention that the old farmhouse, etc., would be available. As the photo on the first page indicates, it would be primitive living, something from the period 1850 to 1910. If it is currently primitive it does have relative isolation, peacefulness and all of the wildlife of the area from fish to pileated woodpeckers to deer. Possibly the farmhouse could be improved in time. It has three bedrooms, living room, kitchen, partially furnished including an electric stove and naturally an ice-box. The LES laboratory is the length of a football field or so away. Also on the property are, one dilapidated barn, other small buildings, fields, woodlands, streams and some very nice campsites.

Quite a number of alternatives exist. Ideally (perhaps) the executive director might be financially independent, or retired, and be able to relocate to Washington. If he or she were not financially independent it is also possible the person could use the farmhouse, devote part time to LES and work in one of the area towns. If the executive director did not need the farmhouse it would then be open for use by graduate school students to help with research, or a scientist on sabbatical who might like the semi-isolated environment to write or to engage in cryobiological or aging control research.

If any of the above interests you, or if you have any suggestions or ideas, please do write to us.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning some of the individuals below. Additional information on help found in previous (and following) FWR's.

LES Washington	(202)723-5397	Ev Cooper, eves, or try (301)277-0246
Albany, N.Y.	(518)HE8-1228	Richard Mende
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336
Baltimore	(301)338-1191	Ted Brown
Baltimore	(301)467-9147	Wesley Walton
Berkeley	(415)525-7114	Art Quaife

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Boston	(617)254-6521	Ed Randall
Briancon, France		Daniel Dupre
Camp Hill (Hrrsbrg)	(717)737-1271	Doug Jamnicki & Tom Longshaw -Leave message.
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Caracas		Kurt Bantelmann
Ottawa, Ont.	(613)733-2255	Jana Ruptash
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen
Catania, Sicily	22.12.82	Prof.& Dott. Giuseppe Valenti (M.D.)
Chicago,	(312)726-3285	Don DeGrazia
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Detroit	(313)543-2619	Bob Ettinger, Also LI 6-4012
Wolfville, N.S.	(902)542-9945	Barry Mason, evenings.
Man, Ivory Coast		Djoman Louis
France		Marc COLLET, 54-Rosieres-Aux-Salines
Gettysburg	(717)ED4-4977	Russ Norgan
Hartford, Alabama	(205)588-3102	Michael Griffin, Also 588-3101
Hermosa Beach(Cal.)	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	Albert Campbell
Houston	(713)H08-1559	Mrs. R.C. Philips
Hull, England	48114 Hull	Alan Worsley
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Kapong, Maylaysia		Ho Sai-Yuen
La Plata, Arg.	4-5058	Oswald Elliff
Ladybrand, S.Afr.	2501-Ext 136	Robert Marin
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Dr.Marcel de Lacroix-Herpin (M.D.)
Los Angeles	(213)MA8-8737	Rosario Coco
Mexico City	28-86-73	Henry Donnat
Manchester, G.B.		John Sutcliffe
Manhattan, (NYC)	(212)MO3-3833	Emmett Baker Groseclose.
Minneapolis	(612)522-9184	Richard Koplow
Montreal	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
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Nagpur, India		S.S. Zadgaonkar
Ohio, Cleveland	(216)662-7115	Jan Novak
Olympia, Washington	(206)943-8918	Virginia Tharp
Paris	INV. 58. 22	Francaise Coulon
Pittsburgh	(412)563-4638	Mrs. Margaret Wyatt
Rochester	(716)244-4469	Neil Shapiro
Hagerstown	(301)RE9-1304	Bill Physioc, evenings
Wilbraham, Mass.	(413)596-8872	Mike Jacobs, 617-277-6325 holidays.
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	(tel. book)	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
Denver	(303)355-2768	Howard Dranoff D.C.
Toronto(Etobicoke)	(416)252-1467	Barry Needler (after 5pm only)
Swansea, G.B.	50989	Gerald Evans
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tacoma, Washington	(206)383-5495	Franklyn McDaniel
Toulon, France	92.70.15	Dr. Guillaume Roy (M.D.)
Tulsa, Oklahoma		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilmington, Del.	(302)PO4-8946	S.A. Pawlowski

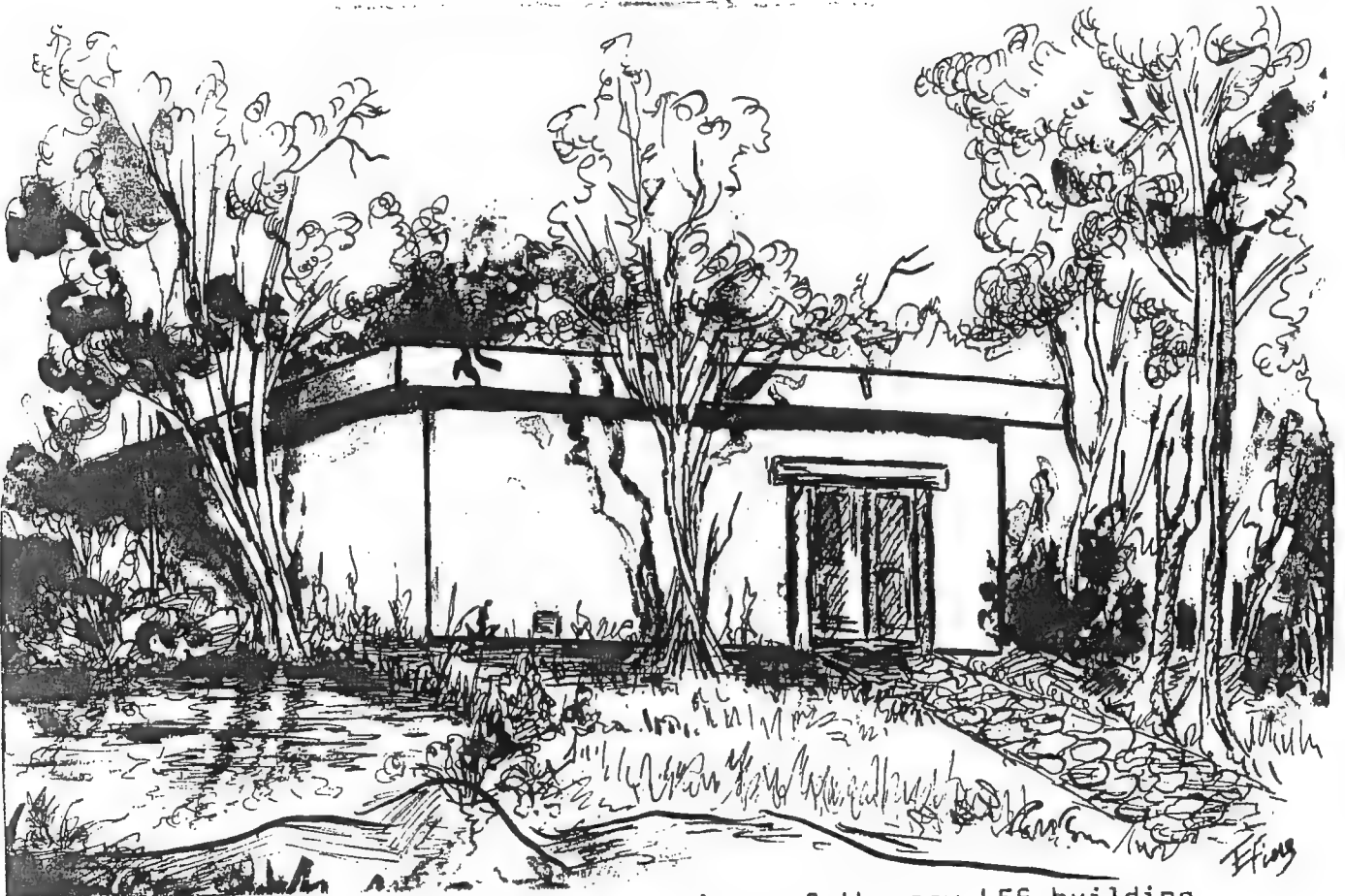
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The artist, Ernest Fiore's, impression of the new LES building.

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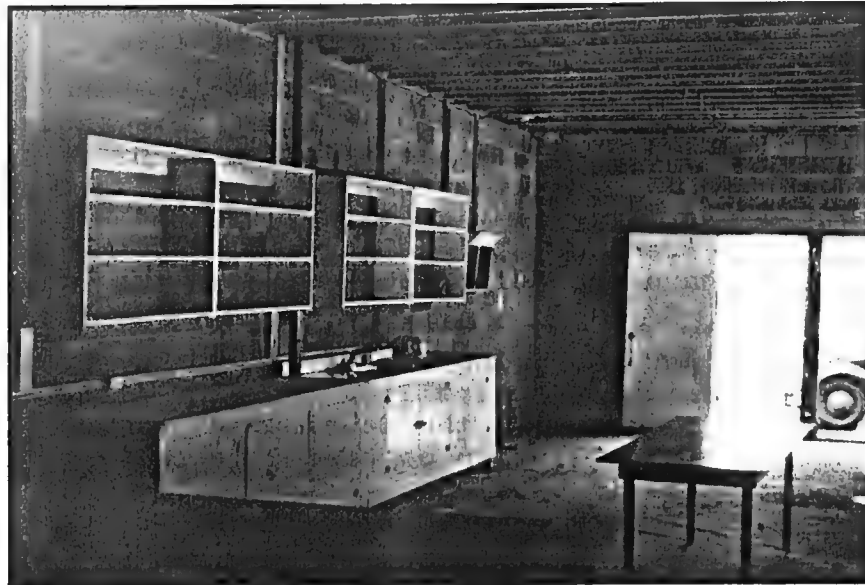


FREEZE - WAIT - REANIMATE

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Some of the cabinets and work area in the laboratory.

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INFORMATION AND HELP, A LISTING OF THE COORDINATORS AND OTHERS.

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CONTROL OF HUMAN LIFE

Dr. Arno Viehoveer

MAN has now fairly well assured his physical survival on earth. The search, experimentation and trials justified him to increase his food supply, in quantity, quality as well as variety. Through the application of continued human engineering he will likely still further advance our understanding of the basic needs of adequate nutrition. Here may be mentioned the use of three polyunsaturated fatty acids from such common sources as the walnut or soybean in the presence of vitamin E from fresh wheatgerm - in order to prevent the hardening of the arteries in the aged and middle aged.

THE recent success in the synthesis of certain amino-acids, involved in certain humanly needed proteins, enzymes, hormones or glandular agents will serve as a great stimulus to proceed further creatively in this field. The essential needs for improved shelter with competing building materials, clothing with both natural and synthetic fibers, and transportation with fantastic speeds on water, land and in the air, have probably been met for a long time ahead.

FOR the unquestioned physiological survival, man is still confronted with the necessity of controlling certain diseases such as cancer for example and preventing the development of various debilitating influences such as pollution or premature aging and reduced viability. Man has still to battle a multitude of about 300 minute disease agents called viruses.

FOUR forms of control or potential control are now available:

- (1) the immunological with vaccines,
- (2) the chemical with chemotherapeutic agents,
- (3) the antibodies with antibiotics and sulfadruugs,
- (4) the viruses with interferon.

Only a few vaccines have thus far made available the successful control of infection with the viruses of measles, German measles of Rubella, mumps, polio, vaccina or small pox. It takes the human body about 7 days to form an antibody to prevent reinfection and usually works in host and non-host cells against the very virus which stimulated its production.

THE real hope, at present, states Hilleman, for halting and/or reversing the process in virus infected cell is chemotherapy. Since vaccines and interferon are essentially prophylactic, chemicals are greatly needed where symptoms -due to viral infection- have already appeared. The real need for the immediate future is the effective cooperation of the synthesizing organic chemist with the virologist and cell biologist. The greatest hope for the eventual prophylactic control of viruses Hilleman and others see in the mechanism of interferon with its broad spectrum of antiviral activity.

INTERFERON was first identified in 1957 by the British scientist Dr. Isaacs. The major British effort is made by the National Research Development Corporation (NRDC) -a government agency, holding the original interferon patents, cooperating with the Gaxo group, Imperial Chemical Industries and the Wellcome Foundation. The principal work in U.S.A. is done by Merck, Eli Lilly and Co. and Dow's Public Health Research Institute and the National Institutes of Health also very much interested.

-next page-

CONTROL OF HUMAN LIFE -continued

INTERFERON is produced by the human body automatically in response to a wide range of viruses and viral infections. These infections are inhibited from spreading by interferon, which prevents the formation of new viral nucleic acids in the cells of its host. This is probably the principal mechanism for early cell recovery from infection, especially of those viral infections with too great a plurality of serotypes for effective use of vaccines. The common cold, caused probably by a multitude of such types of rhinoviruses, and the enteric diseases resulting from infections by enterovirus serotypes, are good examples for the need of interferon, as a prevention of infection and reinfections. Its further use will demonstrate its usefulness. Dr. E. Frederick Wheelock of Western Reserve reported a 4-month remission in a terminal case of leukemia, and believes that, at least in mice, he has found a protective virus which can be stimulated by interferon sufficiently to keep active leukemia virus dormant.

DR. MAURICE R. HILLEMAN has recently made a noteworthy discovery that interferon production is greatly increased by double-stranded ribose-nucleic acid (RNA) induction. This crowns his ten year efforts as head of the Division of Virus and Cell Biological Research of the Merck Institute of Therapeutic Research, West Point, Pa.

DR. THOMAS C. MERIGAN of the School of Medicine, Stanford University, Stanford, California, has studied interferon induction in both man and mice with both viral and non-viral stimuli. P.Z. Lockart and associates in the Central Research Dept of the E.I. Du Pont de Nemours Co, Wilmington, Delaware, reported among other findings that in studies with interferon virus RNA production in chick embryo cells, heat resistant Sindbis virus induced essentially equal amounts of interferon at 29° and 42°. Robert Friedman of the Cancer Institute of the National Institute of Health, in Bethesda, Md., observed that interferon inhibits the production of S. Forest virus proteins ordinarily produced.

DR. SAMUEL BARON of the same institute interested himself especially in interferon inducers and Hilton B. Levy with William A. Carter, there too, observed antiviral action very early during virus replication and suggest that the infecting virus particles may be involved and that the interferon action leads to the formation of altered ribosomes. A new product "PIC" has been reported, also from there, acting as a primer inducing the body to produce comparatively large amounts of interferon as the natural virus fighter.

J.A. SONNABEND of the National Institute of Medical Research, London, England, found that chick embryo interferon inhibited the rate of total viral RNA synthesis. Interferon apparently caused the inhibition of the enzyme polymerase synthesis but affected viral protein synthesis.

YOSHIKO SETO and associates of the Division of Medical Chemistry of The Keio University in Tokyo, Japan, observed the formation of "antivirin", a new viral inhibitor factor, grown in the absence of an interferon inducing factor. Antivirin inhibited both the DNA and RNA viruses and, unlike interferon, was not inactivated by the enzyme trypsin, nor by heating at 100° for one hour nor by periodate oxide.

INTENSIVE research is carried out in numerous countries, including the USSR, especially the Institute of Polio Viral Encephalitis, Moscow, on antiviral agents. Members of the Einstein College of Medicine in New York place their hope for an over-all weapon against viruses in a red dye now under intensive testing.

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CONTROL OF HUMAN LIFE -continued

IN ADDITION to battling viruses, causing infections and disease, the control of mental disturbances, the prevention of premature aging, the repair and replacement of human organs should take an important part in the physiological approach to assure the control of active, healthy, prolonged human life.

* * *

ADAPTATION AT -196° C AND THE STORAGE OF HUMAN SPERM

Drs. J.D. Trelford and F. Mueller report in the Canadian Medical Association Journal (Jan 11, 1969, p. 62-65) that apparently there is some adaptation of sperm at liquid nitrogen temperatures. It seems incomprehensible that an organism could molecularly alter in any way at those temperatures and yet this is what their studies seem to indicate.

THE general import of their report "Observations and Studies on the Storage of Human Sperm" is that human sperm can be stored, perhaps indefinitely, at liquid nitrogen temperatures and still remain viable upon thawing and artificial insemination into women. However, some of the survival rates were puzzling over very short periods. For instance, sperm stored for less than 24 hours and sperm stored for more than five weeks had a better survival rate than sperm stored for one to three weeks. How could this be? Even the authors seem to be baffled. Early in their paper they report the mystery and promise to discuss this later. Later all they appear to say is "that a period of adaptation must occur." This should be a challenge to future researchers to explain the mechanism when more often it is assumed that no molecular action can occur at such temperatures.

ADDITIONAL items of interest are that small changes of temperature below freezing, presumably during storage, are very detrimental to bull semen the practice of which has pioneered the way for human semen storage.

A 7.5% solution of glycerol with fast freezing has proven to give maximum survival.

SEMEN from the orang-utan has been successfully frozen and thawed with sperm survival. Previously this has been virtually impossible for higher primates. The authors indicate that if the technique can be perfected it may help to "prevent the extinction of the orang-utan" whose numbers are diminishing rapidly.

LETTER FROM MEMBER SUGGESTING PAY-AS-YOU-GO PLAN FOR RESERVING SPACE FOR CRYOGENIC STORAGE

IN ORDER for your organization to achieve its objective; that is, of becoming a going non-profit organization created for the purpose of cryogenically freezing deceased members, carrying on research, and stimulating interest, it seems to me you should seek revenue from the sale of freezing units and storage space through some sort of financing arrangement.

ONE LOCAL memorial park sells land and facilities by receiving two consecutive 3-year notes from its customers and discounts the first one with a local bank. The second is eligible for discount

-next page-

LETTER SUGGESTING PLAN TO RESERVE SPACE FOR CRYOGENIC STORAGE continued

after the first note has been paid in full. The notes are in effect installment contracts receivable and are paid by the members over a 6 year period.

WITH PART of the funds received, the organization might create a perpetual care fund to be administered by the trust department of a local bank.

IT APPEARS to me if this system can work for memorial parks there should be no reason why it could not be applied to LES. The method outlined above appears more suitable to me than waiting for the death of a member before funds are received.

WHILE I realize that all work in LES is voluntary, all organizations must have revenue to stay in existence.

ANOTHER SUBJECT that I would like to touch on is this: A terminal patient might go into a hospital which may not release his body upon death to an LES official. It seems to me that all terminal LES members should go to a hospital or rest home that had a clear understanding with LES re release the body immediately upon death.

I DO not intend to be critical but it seems that too much emphasis in the organization is placed on theory and not enough on practical applications such as financial and administrative considerations. Given enough revenue, it would seem that the organization would grow and many of the theoretical problems would be solved as a by-product of growth. Please let me have your thoughts on the subject.

COMMENT

The suggestion above is completely to the point. Recently a man died in New York with insurance and he wished to be frozen. However, two factors led to his burial instead of to freezing. One, the family needed the insurance money, and second, the freezing could not be arranged at the hospital and there was a long delay after death before other arrangements could be made. Concerning anyone who wishes to be frozen and the hospital, members should arrange to have the perfusion and freezing done immediately after death in the hospital. Time, equipment and technical knowledge are far too critical factors which are all on the side of having it done in the hospital immediately upon death. If the hospital will not agree, then the person should arrange medical care in any terminal instance in a doctor's or nurse's home, a rest home, a clinic, a nursing home, or in the patient's own home. This is obviously the critical period. Once the person is initially frozen, usually in dry ice, then there is plenty of time to make arrangements for long term storage in a physical sense provided there are some funds or insurance available, or provided as suggested in the letter above that space had been reserved previously.

ABOUT THE NEWSLETTER BEING LATE AS SIN AND OTHER NEWS

Recently your editor had an interview in Wilmington, Delaware with a rather prestigious member of that community knowledgeable about foundation grants. Though it wasn't practical for him to present an LES application to foundations for a grant, he did generously mention all of the tasks and operations that we might do ourselves toward the end of research grants and better organization. When the list reached generous proportions we remonstrated that we didn't see how we could do all those things immediately when we were three months or more behind with the newsletter for instance. With a polite but authoritative wave

-next page-

MISCELLANEOUS continued

of his hand, he said, "These are details." --We are thankful if our readers are so tolerant. We expect to make up the tardy issues by sending out two issues in some of the forthcoming months.

A PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR AND VOLUNTEER HELP REMAINS

LES has received some marvelous help and the promise of more help, however, as our task is so large much more help is needed. At a later date we may reprint the plea with its details found in several of the previous newsletters.

So far we can report that a handful have written expressing interest, some from abroad. One person who has known of LES for quite some time has come from Lucknow, India. This is Mr. Prem Agarwal who arrived several days ago and has helped us with correspondence. However, Mr. Agarwal is a graduate civil engineer, having taught the subject and supervised state construction in India, but would like to take further graduate instruction, teach, or work in this country. Does anyone know of anything open for Mr. Agarwal?

We are also most fortunate to receive the help and advice of Dr. Viehoever who wrote the article "Control of Human Life". He is a scientist, teacher, and poet whose work and enthusiasm and hope is spread from Germany through the United States to Thailand and back. He is a very active Adviser to LES, meeting with us each week, and urging us forward to the time we can do some solid and interesting research in the laboratory.

We are most thankful to some of our highschool and college age members. Cole Kitchen has been writing letters and sending out newsletters and will be heard from in these columns at a later date. Al Lefebvre, with leanings toward architecture, did the major portion of the work insulating the lab and has ideas for resuscitating one of the minor farm buildings and making it into an overnight guest house. Greg Kennedy has helped with everything and is excellent about gathering in new members.

We are endlessly indebted for years to the always reliable and steady help in turning out our newsletter to our V.P., John Prince, our LES Technical Adviser, Ernest Karlsen, and his wife, in addition to Kitty, Morris, and the Waltons who often come all the way from Baltimore to help.

Some have volunteered to help at a distance (and do help) such as our sparkplug, Jerry Cullins, in North Carolina and others who have volunteered but we haven't had a chance to get material to them. Please have patience. We may get something to you yet. Thanks go to all these we haven't mentioned. And, just because we are getting increased help, don't be shy if there is something you think you can do. Let us know.

Lastly, additional members have volunteered to be coordinators and we expect to get them on the following list next month.

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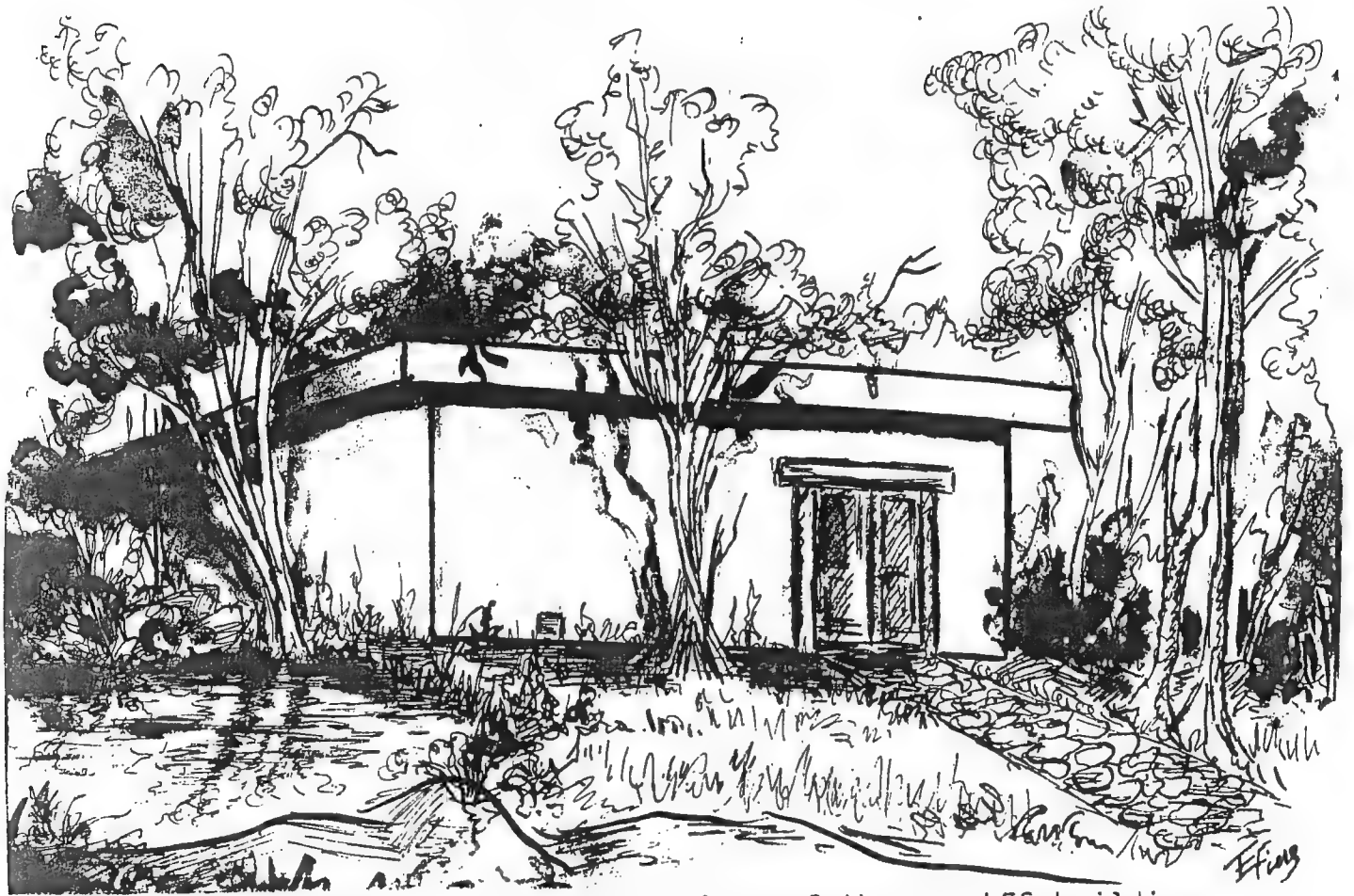
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The artist, Ernest Fiore's, impression of the new LES building.

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"December" 1968
(published late)



FREEZE - WAIT - REANIMATE

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Lunch table and pond, adjacent to LES lab,
in spring before the trees are leafed out.

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WHY I AM INTERESTED IN CRYOGENIC SUSPENSION
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RECOMMENDATIONS AND SUGGESTIONS IN LES
MANAGEMENT by John Sutcliff

INFORMATION AND HELP .

-copyright 1968-

MRS. ANN DE BLASIO, CANCER VICTIM, FROZEN IN NEW YORK.

Following in the footsteps of Prof. Bedford, Marie Sweet, Russ Stanley, and a handful of others, Mrs. De Blasio was frozen with the aid of the Cryonics Society of New York. Her body is being held in dry ice at the Washington Memorial Cemetery until a liquid nitrogen freezer can be obtained. The cryogenic storage container, or cryocapsule is expected to cost \$4,500 and the monthly charge for maintenance is about \$50 per month. It is expected that the liquid nitrogen in the capsule will have to be replenished once every four months. As the costs, especially the maintenance costs, are higher than expected, it gives some of the rest of us who are preparing facilities the goal of greatly reducing the expense of freezing and storage.

A REPEATED PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR AND ADDITIONAL VOLUNTEER HELP IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer staff in addition to what we now have. Certainly here are some people who have the time. There must be many persons who feel they are now engaged in relatively meaningless activity. We doubt that a person could find a more important area of work than the extension of life. We appeal to retired persons, to students looking for interesting work for the summer, or to members who might spend their vacations, or part of their vacations, working at the LES place.

JOB OUTLINE: In previous issues of the newsletter we have sometimes listed the many tasks that need to be done. The list is almost endless encompassing all of those tasks of an organisation, a laboratory, a farm and a recreation area. (The present staff is spreading itself too thin and as a result your newsletter is unconscionably late.)

We make a plea for volunteers for dues would have to be raised too much, at our present size, to hire help. Many organizations have found that in their beginning stages they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money. The problem is locating the person with sufficient time and the willingness to help.

There is not much that LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. The old farmhouse at the LES "center" is available. Anyone interested must be warned that it is extremely primitive, yet it does have an air conditioning unit, refrigerator, and electric stove. Wildlife, especially birds, abounds. The LES lab is a hundred yards or so away. The land is about 19 acres in size with streams, pond and other buildings some of which may be suitable for camping out (for those who are young and hardy).

IF YOU ARE THE PERSON WE ARE LOOKING FOR, PLEASE CONTACT US. IF YOU KNOW OF SOMEONE INTERESTED, PLEASE URGE THEM TO ACTION. THERE ARE LOTS OF ALTERNATIVES. Naturally we don't expect the volunteer to do everything. ANY HELP WE CAN GET WILL BE A BOON TO LES. IF ANY OF THE ABOVE INTERESTS YOU, OR IF YOU HAVE ANY SUGGESTIONS OR IDEAS, PLEASE WRITE TO US.

AN INSTITUTION FOR CARE BEFORE FREEZING SUGGESTED

by J. Coleman Kitchen Jr.

In the field of space travel, the end of the long effort to put people on the moon seems to be in sight, and men are beginning to discuss possible post-lunar objectives. We are engaged in the pioneering of a kind of time-travel, and with the slowly approaching completion of our lab building it is also time for us to propose new specific goals.

Such an attempt will be facilitated by an examination of the three-way log jam in which present-day freezing seems to be trapped. To date, cryogenic interment has been almost impossible to obtain, and those freezings that have been carried out have had some of the character of slow-motion nightmares. The Businessmen won't provide some sort of "ready-made" freezing because there has been no demand for it from the People, and this, in turn, seems to be because the cautious Scientists have not yet placed their seal of approval upon the concept.

What it all comes to is that those who wish to be frozen need assured, hospital-type freezing arrangements that do not come unstuck at the last minute. This is why it would be an excellent idea to work toward the establishment of our own high-quality nursing home, giving the best in care and cheerful surroundings while the patient is alive, and providing continuous electronic monitoring of terminal cases so that the process of freezing could be begun upon the moment of medical death. The institution could include facilities for both the dry ice and liquid nitrogen stages of freezing, as well as an on-site mausoleum, thus ending the dangerous delay between stages that often occurs today. Such an institution could, perhaps, charge full price for those able to pay and still help those who understand the concept and are willing to devote all available resources to it, but have not the full funds. A possible location would be our existing 19-acre tract, which already contains an incipient lab-and-possible-storage building. Perhaps this could become the nucleus of the home. At the least, such an institution would relieve the fears of the few who are already attempting to prepare their freezing.

But what of those well-disposed to the freezing concept, but not innovative or far-seeing enough to prepare for their own storage under the rather fearful present conditions? If their response to such a nursing home demonstrates a large potential demand, it is possible that Business, and consequently the People, might be nudged into action. Thus, the emergence of this model institution might precipitate comparatively significant changes in social attitudes toward cryonics.

Large questions of how, when, and whether loom over this enterprise. In soliciting funds, it should be remembered and emphasized that this operation would, hopefully, ultimately pay for itself. The question of "when" is of vast psychological importance to ourselves and should not be neglected. A dateline and a timetable can be crucial in keeping an enterprise moving, since any slippage in schedule is not without its spur of conscience; "mañana muddle" is not so apt to emerge.

If men do land on the moon next summer, it will have been eight years since President Kennedy put the challenge to the nation. That nation had not yet orbited a single man. None of our astronauts were then in danger of crashing upon the moon, for the US had not yet devised a guidance system error-free enough even to hit that world. If a country could be spurred to come so far in eight years, what may not we, who have so much more to lose, achieve if we resolve that eight years from now -- in 1976, a year of more than usual significance -- such a gateway to the future shall exist?

WHY I AM INTERESTED IN CRYOGENIC SUSPENSION

by Gregory Wright

We humans seem to be committed to nonexistence for almost all of time, by what we are for a few short years. Every rational description I read of the human organism emphasizes that we are exclusively physical, protoplasmic beings (with a limited natural lifespan). At the same time we are specific individuals, identities, personalities--whatever you will--and none other (except for the relatively small changes in each of us over the years). I find it impossible to believe, in any comforting way, that there can be an "I", a soul which is separable from my physical body, and capable of existence in a place or a time where my body (in decent, functioning condition) is not also present. That sublime attraction of the idea of reincarnation, or of heavenly afterlife, the possibility of my existence over much more of time's long stretch than I can otherwise expect, seems to me to have no natural reality.

My mind--because I do see and appreciate the greatness of what life I have--boggles at the thought of all the moments of this earth's existence and beauty that I have never been, and may never be conscious of. I am very aware that, by some cruel and arbitrary rule, I am barred from ever partaking of the possible infinity of time predating my birth, and from most of the possible infinity which, at least for now, stretches out before me.

RECOMMENDATIONS AND SUGGESTIONS IN LES MANAGEMENT

by John Sutcliff in Great Britain

1. I would respectfully suggest that to centralise all the efforts required of a single individual is a monumental task. Those tasks would be better operated on a cooperative basis on such things as area maintenance etc. as follows.
2. The maintenance of LES headquarters could be handled by the coordinated efforts of local members perhaps in cooperation with a wild life club or association in return for the use of some of the land to erect hides (blinds), etc., to observe and record a particular species.
- 2A. Such an association need not wholly agree with our views. But a meeting of the minds is always a good idea that might have a practical result in the preservation of a threatened species.
3. We have here an organisation whose membership is willing to help in any way to our mutual ambition. To this end we have a responsibility to membership involvement in any way possible and to depend on one leader however democratically selected would isolate the individual member and the leader. Many members are on the periphery of LES galactic affairs, particularly those out side the United States. Our only means of communication is FWR and the occasional letter. It is to communication and an expression of ideas that FWR must now be aimed. As our organisation can only gain strength from individual expression.
- 3A. As a way of involving each member in the societies activities FWR could be rearranged. For example, the list of our coordinators while offering general information is not sufficiently specific to offer any

-next page--

SUGGESTIONS IN LES MANAGEMENT continued

great service. It could be replaced by a list of new members and their full addresses together with people who have written requesting information. In this way their nearest coordinator would contact the new or prospective member while keeping the need for local coordinator/LES HQ communication to a minimum. Other members could contact the new boys and make them feel at home especially in that part of the society their ideas are in. This would certainly prevent a feeling of isolation. We are dealing with a very personal thing and we must encourage a feeling of fellowship of ideal as part of our foundation in our final achievement. Such a step would also alleviate the hard pressed volunteer efforts of the present staff and actively involve the whole membership.

3B. This suggestion could be backed up by a standard letter with adequate space for a brief typewritten personal reply. The standard wording could explain the situation and care should be taken in the assembly of the letter to involve the individual as much as he or she considers acceptable. Care should be taken not to scare a prospective member. Later of course a personal letter would be sent from the leader.

4. FWR should be independent of the leader and be a free voice of comment. The following are further recommendations:

A. Alternate months of equal space to members letters and one on the long articles, or general news. A separate page ideally would suit the latter.

B. Better use of page space. Perhaps closer spacing and smaller print, more use of heavy type capitals of more recent issues.

C. CONTINUATION of picture reproduction extended perhaps to inside pages.

D. DETERMINED efforts to obtain articles from philosophy and SF writers besides researchers to criticise and state their views on CSA (cryogenic suspended animation) then (See 4A) a return discussion of letters in the following issue.

E. EDITORIAL comment in the form of a leader perhaps once every quarter.

F. FWR MUST also become internationally aware rather than provincial American. To a good measure it does this already but perhaps the edition for export could contain LES meetings to be held in Europe and else where as they occur on a separate page. This would help those groups who do not have their own paper. But as there is a growing number of local LES newsheets, it is even more important that the international voice of FWR act as a guidecommentator and sage to the cryogenics movement throughout the world.

5. IT IS DEBATABLE whether FWR should be under the leaders' control. I personally don't think it should. As I have stated above from the democratic point of view the major decisions must be made by the vote of the membership laid before them in FWR uncompromisingly for individual comment so they can vote on its direction of action. The leader must always reflect the wishes of the membership majority. Free comment in FWR would guarantee this.

6. ALL DECISIONS of major importance must be decided by a majority vote of the membership.

7. THE LEADER should be elected for five years. But be dismissable by a two thirds majority if called upon by the membership.

8. HIS DUTIES should be as follows:

-next page--

SUGGESTIONS IN LES MANAGEMENT continued

1. Promote the LES program on an international scale by appearances on TV, radio, giving lectures and writing articles for other magazines not in the cryogenics movement as recommended in FWR Vol 4, No. 48.
2. OBTAIN LAB EQUIPMENT research wants and locate competent scientists again as stated in FWR Vol 4, No. 48.
3. ENTERTAIN VISITORS, arrange conferences and reorganise management systems.
4. THE ADVISORY COUNCIL of each group must maintain their independence although linked in a union of ideas. The leader could receive the nomination for council posts and hand them on to FWR to be voted upon. (See Sec. 6)
8. THE DATA COLLECTED by LES research could be published as part of a yearly handbook in a similar way that I have previously described in allied letters. It could be managed by the leader and produced cheaply in a series of loose leaf pages in a card board cover that could be issued within a part of FWR and sold independently or as volumes to nonmembers to cover the cost of publication.
9. IN CONCLUSION I would say that in any expanding organisation the construction and demolition of new ideas must be a rapid process when change is demanding. Our evolution reflects the development of the field it is most concerned with.

I respectfully submit these recommendations for your appraisal and comments.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of coordinators are new. We don't know every coordinator personally, but we hope we made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she can. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger, Dr. Roy, and Dr. Able(213)OR7-3153, all of whom have made themselves available for the best of advice in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246	eyes mostly
Albany, N.Y.	(518)HE 8-1228	Richard Mende	
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel	
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336	
Baltimore	(301)338-1191	Ted Brown	
Baltimore	(301)467-9147	Wesley Walton	
Berkeley	(415)525-7114	Art Quaife	
Bishop's St., Eng.	3540	Geoffrey Dennis	
Boston	(617)254-6521	Ed Randall	
Camp Hill, Pa.	(717)737-1271	Doug Jamnicki & Tom Longshaw.	leave message
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella	
Caracas		Kurt Bantelmann	
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen	
Vancouver, Wash.	(Ask Information)	Vincent Mooney, Jr.	

INFORMATION AND HELP continued

Catania, Sicily	22.	12. 82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chattanooga	615	875-6507	S.A. Pawlowski
Chicago	312	276-9496	Joseph Jancsovics, after 2 pm.
Chicago	312	726-3285	Don DeGrazia
Cleveland	216	662-7115	Jan Novak
Concord, N.C.	704	782-7800	Jerry Cullins after 4pm
Denver	303	355-2768	Howard Dranoff D.C.
Detroit	313	543-2619	Bob Ettinger, Also LI 6-4012
Florence, Ky	606	371-5817	Leroy Catron, after 6pm
France			Marc Collet, 54 Rosieres-Aux-Salines
Gettysburg	717	ED4-4977	Russ Norgan
Hagerstown	301	RE9-1304	Bill Physioc, evenings
Hartford, Ala.	205	588-3102	Michael Griffin, Also 588-3101
Hermosa Beach, Cal.	213	FR2-8075	Rosario Coco
High Point, N.C.	919	882-3744	Albert Campbell
Houston	713	H08-1559	Mrs. R.C. Philips
Hull, England		48114	Alan Worsley
Hyattsville, Md	301	422-9179	Al Lefebvre
Jacksonville, Fla.	904	384-4806	Seena Acklen
Johannesburg, S.A.		253-235	Robert Marin
Kapong, Malaysia			Ho Sai-Yuen
London (Stevenage)		2444	George Knowles
Lorient, France		64.29.81	Marcel de Lacroix-Herpin, Dr. (M.D.)
Los Angeles	213	MA8-8737	Rosario Coco
Man, Ivory Coast			Djoman Louis
Manchester, G.B.			John Sutcliff
Michigan City, Ind.	219	872-3835	David Riggs
Minneapolis	612	522-9184	Richard Koplow
Montreal	514	484-1591	Jim Clancy
Moscow, Idaho	208	882-3409	Patricia Gossett
Mt. Rainier, Md.	301	277-0246	BillaAlbaugh
Nagpur, India			S.S. Zadgaonkar
Nancy, France		53.50.30	Dr. Emile Leclerc (M.D.)
New York City			Louis Sicilia, 70 W. 108th
Oak Forest, Ill.	3127	687-1930	Fred Behrens
Opa Locka, (Miami)	305	681-3941	David Gridley, after 5pm leave message
Olympia, Wash	206	943-8918	Virginia Tharp
Ottawa	613	733-2255	Jane Ruptash
Paris	INV	58.22	Francaise Coulon
Pittsburgh, Pa.	412	563-4638	Mrs. Margaret Wyatt
Pittsburg, Ka.	316	AD1-8086	David Lemes
Rochester	716	244-4469	Neil Shapiro
San Jose	408	294-2866	James Lewis
South Bend, Ind.	see	tel.book	Eli Spicer
St. Petersburg	813	361-1691	Vicki Gerard
Swansea, G.B.		50989	Gerald Evans
Tacoma, Wash.	206	383-5495	Franklyn McDaniel
Toulon, France		92.70.15	Dr. Guillaume Roy (M.D.)
Trenton, N.J.	609	393-2643	Gerald Donsky
Tucson, Ariz.	602	793-7045	Jim Franklin
Tulsa, Okla.			Steve Reiner
Tunkhannock, Pa.	717	836-5761	Thomas DeWitt
Wilbraham, Mass.	413	596-8872	Mike Jacobs, 616-277-6325 holidays
Wolfville, N.Scotia	902	542-9945	Barry Mason, evenings

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C., 20036.

-This is our mailing address above. We are not large enough to have offices as yet.

A Nonprofit,
Tax-Exempt,
Organization.

Life Extension Society
2011 Mth Street N.W.
Washington, D.C. 20036



The artist, Ernest Fiore's, impression of the new LES building.

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(published late)



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036

STUDENTS AND RETIRED PERSONS,
NOTE OPPORTUNITY FOR VOLUNTEER
WORK WITH LES.



View of the "creek" which borders the
LES property and lab. Early spring.

CONTENTS:

This issue is devoted to a wide variety of letters
articles and notes by LES members and subscribers,
as well as our plea for a volunteer executive
director and other volunteer help.

-copyright 1969-

LES GET-TOGETHER IN L.A. AREA EVERY THIRD SUNDAY AFTERNOON

There will be an "Open House" to get acquainted and for discussion at the home of Hermosa Beach, California Coordinator, Rosario Coco (834 5th Street, Hermosa Beach, Calif., one block off Pacific Coast Highway), every third Sunday of the month from 3:00 P.M. to later in the evening. Please try to attend. Everyone is welcome.

IN THE MIAMI, FLORIDA AREA Please note the phone number of David Gridley, Opa Locka, Florida, who would like to begin meetings.

IN NEW YORK CITY contact Louis Sicilia, 70 W. 108th St. who has taken over for Emmett Baker Groseclose. Mr. Groseclose, who has given unstintingly of himself for LES now has to devote more time to graduate studies.

A REPEATED PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR AND ADDITIONAL VOLUNTEER HELP IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer staff in addition to what we now have. Certainly here are some people who have the time. There must be many persons who feel they are now engaged in relatively meaningless activity. We doubt that a person could find a more important area of work than the extension of life. We appeal to retired persons, to students looking for interesting work for the summer, or to members who might spend their vacations, or part of their vacations, working at the LES place.

JOB OUTLINE: In previous issues of the newsletter we have sometimes listed the many tasks that need to be done. The list is almost endless encompassing all of those tasks of an organisation, a laboratory, a farm and a recreation area. (The present staff is spreading itself too thin and as a result your newsletter is unconscionably late.)

We make a plea for volunteers for dues would have to be raised too much, at our present size, to hire help. Many organizations have found that in their beginning stages they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money. The problem is locating the person with sufficient time and the willingness to help.

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LETTERS AND ARTICLES BY MEMBERS

IN the letters, articles and notes that follow we will drop the "Dear Editor" or whatever greeting and provide a heading that may give some idea of the writers' concern or topic. Apologies to those we may have neglected. What appears below may not be the best of writing in the freezing movement, but it should be representative of the variety.

A MEDICAL SCIENTIST DISCUSSES DIFFICULTIES WITH THE FWR IDEA AND THE NEED FOR RESEARCH

I just read the October issue of FWR this evening with your stimulating essay on "Why Have So Few Been Frozen?" As a scientist I would like to clarify aspects of my viewpoint, particularly since you appear to feel that the "scientific establishments' negative attitude" has been a major factor in the slow progress of the FWR concept. First, let me state what seems to me to be an essential factor that, somehow, is often overlooked by non-scientists. The scientists and M.D.'s who have spoken out in a negative way about FWR concepts have stated their individual negative attitude toward FWR. As in other professions, however, they merely represent one viewpoint, which many of their colleagues need not share. Analogously, many M.D.'s are very conservative, support George Wallace, etc. and may criticize FWR in order to not raise false hopes, much as they would be cautious about claims for a specific cancer cure. Similarly many scientists became scientists because they are attracted by the appearance of inherent orthodoxy seemingly contained in a set of scientific values, only to discover in advanced research that even the "simplest" phenomena contain a vast number of unanswered questions.

IN CONTRAST with scientists that have a closed mind and negative attitude towards the FWR hopes, there are some such as myself who approach the problem as another very difficult but vital research problem on which it does not seem impossible to make good progress now, just as we tackle other research problems that have resisted solution. But we are somewhat disturbed at the lack of progress (in the scientific problem of freezing small ~~mammals~~ or mammalian tissues in such a way that they can be revived) that is engendered by the attitude of FWR executives who place their faith in the possibility that future generations will want to develop methods (almost impossible) of trying to revive people frozen by the crude process now used. The unreliability of this faith is suggested by the following considerations.

THE NORMAL PROGRESS OF CRYOBIOLOGY, it seems clear, over the next 10 to 50 years will greatly improve freezing techniques by reducing freeze-damage to cells. Therefore, future scientists will concentrate on the reanimation of people whose cells have suffered much less damage than the cells of those frozen by the present crude process. Thus the incentives of the scientists of the future (10 to 50 years) will be only to develop a coordinated new technique for minimizing cell damage to the extent that their reanimation procedures will be satisfactory. They will have no personal reason to try the virtually impossible job of repairing the partially disintegrated cells of people who have been frozen by techniques that were much cruder than the improved freezing techniques. Therefore, your faith in letting "future science solve the problems C, D, F" is quite probably unjustified. Consequently, the practical approach of the research scientist towards accomplishing specific progress seems to me

much more satisfactory than faith alone. There are well established methods of obtaining research progress, and I am optimistic that these methods can improve the freezing techniques considerably in a few years. The generally accepted rules for getting good research progress are (1) have well-trained and enthusiastic scientists prepare a written research plan which is acceptable to recognized authorities in the field, (2) supplying them with at least a minimum of funds for materials, assistance, etc., and (3) have their progress monitored by experts. These are a few of the ingredients for good progress. Funding is a difficult problem, of course, since the subject maybe too controversial for governmental support. Consequently, philanthropists maybe the only practical source of the funding. ...

Written by a doctor and scientist from
the West Coast.

THE IMPOSSIBLE TAKES A LITTLE LONGER: A PART OF A REPLY FROM LES

...The practical suggestions are excellent and we will work toward them.

...We are not working on "faith" alone, as you know, but putting in nearly all possible time on the LES laboratory and storage center. We are all for research now, but also for storing non-survivors now on the chance something can be done for them in the future. It is an old story that we underestimate future ages, or their ability to do things we now think impossible. As the saying goes, "the impossible merely takes a little longer."

LIFE, FREEZING, MURDER AND SUICIDE

...I am not interested in your program for any personal gain whatsoever. There is only one thing I am interested in and that is life, be it mine or anyone else. If there is any way possible that I can help so that mankind can overcome death, then this is what I want. Incidentally, I am 25 years old and am in excellent health.

I believe that man should not be held to prejudices, religious beliefs, superstitions, etc., etc., when it comes to the question of whether he shall have a chance to continue his life when all chances at the present have been exhausted and there is no hope for him at the time of his "death".

To deny a man this chance, in my eyes, is no better than murder. Or, on the other hand, if a person were to deny himself this chance, no matter how slim the chances were, it would, again in my eyes, be no better than suicide.

David Riggs, Michigan City, Ind.

FREEZE EVEN IF NO CHANCE, IN PREFERENCE TO....

I would think that people would be in favor of freezing even if there were absolutely no chance of future revival.

Permanent freezing seems much more appealing to both the freezee and to his family rather than having his flesh slowly gnawed away by mildew, mold, ants, worms, and other subterranean creatures.

-- Len Cella, Broomall, Pa.

Ed. Comment:

We are mystified too. They must be morbid?

(Len also sent in a second letter describing how pessimistic many scientists have been in the past. Later achievements indicated rather

dramatically how unjustified was their pessimism. However LES cannot reprint the long quotes from Arthur C. Clarke's book Profiles of the Future used in Cellas' letter without publishers permission.)

WHAT ABOUT THOSE WHO HAVE DIED IN THE WAR IN VIETNAM?

Just recently a young friend of mine was killed in Vietnam. It might be interesting to hear FWR reader opinions on the subject of "How can these people be offered our services?"

-David Gridley, Opa Locka, Fla

Ed.Comment:

Several years ago we distributed a news release asking that any person dying in Vietnam be frozen assuming the person wished freezing. Refrigeration could be made available rather easily. The total lack of interest led some of us to the conclusion that the powers that be are more interested in destruction, death, or ideological containment than in life and preservation. --Regardless of past experience, perhaps our readers have suggestions?

THOUGHTS OF A CHRISTIAN BIOLOGIST ON LIFE PRESERVATION BY FREEZING

After reading the article on the back page of the recent issue of CHRISTIANITY TODAY* I was reminded of our earlier correspondence about some of these matters. I feel that Dr. John Montgomery has presented rather well the position held by the majority of informed evangelical Christians. There is no reason for biblically oriented Christians to be obscurantist or in any way disturbed by the recent developments associated with life preservation by freezing.

Also enclosed is another article in a small Christian paper,** which incidentally is edited by a graduate of our college. This article indicates that our hope lies in Jesus Christ and that one day those of us who are following (or are related to) Him will rise up to be with Him forever.

The Bible tells us in I Corinthians 15 that at the time of the resurrection we will be changed; so we are far less concerned about what happens to the body after death than we are about how we use the body during this life. If life of the body is prolonged, we can think of this as an extended "sleep". Exactly when the immaterial part of the body (the "soul") leaves is up to God. We humans have no way of knowing this for sure, and it does not seem to me vitally important that we should be able to determine the exact moment.

Informed evangelical Christians favor scientific advance and they thank God for allowing us to obtain this knowledge.

As a scientist I might be involved actively someday in working on some phase of the cryonics program. In fact, presently I am thinking about recommending to my students that they could engage themselves in some project in this area for their Special Problems course. My own research involves biochemical taxonomy. Primarily I am working with reptilian proteins and DNA.

-continued--

From the biblical standpoint I feel that there are certain things that should be stressed when one is considering the "Life Extension" program. First of all, every man bears a personal responsibility to God. Romans 14:12: "So, then, every one of us shall give account of himself to God." After this earthly life has ended, the eternal part of us is ready for either Heaven or Hell. According to the Bible man is born in sin and obtains assurance of Salvation only after an act of faith in the Lord Jesus Christ.

Secondly, the Bible points out the importance of the marriage bond and the Christian family. In the ideal family children are loved and properly cared for by their parents, and there is participation by the whole family in devotional and other wholesome activities. There are moral examples set and guidance given by the parents. In order for children to develop in the best possible manner, they need to be exposed to a wide variety of experiences, but wise parental counsel is most important. Anything which serves to disrupt the monogamous godly family is therefore wrong. Those factors which will favor sound family life are to be encouraged.

I see "Life Extension" activities as potentially good or bad (like other research involving the human body), and I of course, desire very strongly to encourage exercising of the highest moral principles in all phases of the work. So these are some of my thoughts on the matter. Thank you for your patience; all the best in your continuing efforts for the good of mankind.

Sincerely,
Wayne Frair, Professor of Biology,
King's College, Briarcliff Manor, N.Y.

* Christianity Today, May 10, 1968, page 48.

** Christian Times, April 14, 1968, page 4.

CHRISTIAN STUDENT REACTION TO CRYOBIOLOGY FOR HUMANS

--- When I first learned of your idea, I was stunned, then fascinated by the possibilities. As far as being a Christian and believing in cryobiology is concerned, I think they can be combined to a certain point. For instance, I believe one could be frozen and rejuvenated, but only if he were alive before the freezing, which could be possible. But I just can't believe that one could be rejuvenated if he is dead before freezing for I believe there is a soul which is life itself that God holds. This would be 'snatching a soul back from heaven.'

If it is concerned with rejuvenating live people, I am for it.

This is basically the opinion of most students on campus that I have talked to as they learn more about it. They responded first with disbelief, then interest, and asked many questions, which I can now answer thanks to research and your helpful bulletins and newsletters.

Sincerely,
Madeleine Schmierer, Nashville, Tenn.

ABOUT FREEZING BEFORE DEATH

I was thinking about the possibility of freezing humans just before "death". If you freeze a dead body, it stays dead; but if you should freeze a living body it could stay alive under the right conditions. I have been reading about the freezing of a cat's brain by Prof. Suda. I assume that the brain was alive when it was frozen. So if you freeze humans before they die, they have a better chance to be reanimated in the future. ...

Peter Yanginski, Hatfield, Mass.

NOW A COMMERCIAL

Having your brain frozen is one way to get rid of an Exerdrin headache.
 Jerry Cullins, Concord, N.C.

FROM A READER WHO FELT THE FREEZING MOVEMENT WAS GOING BADLY

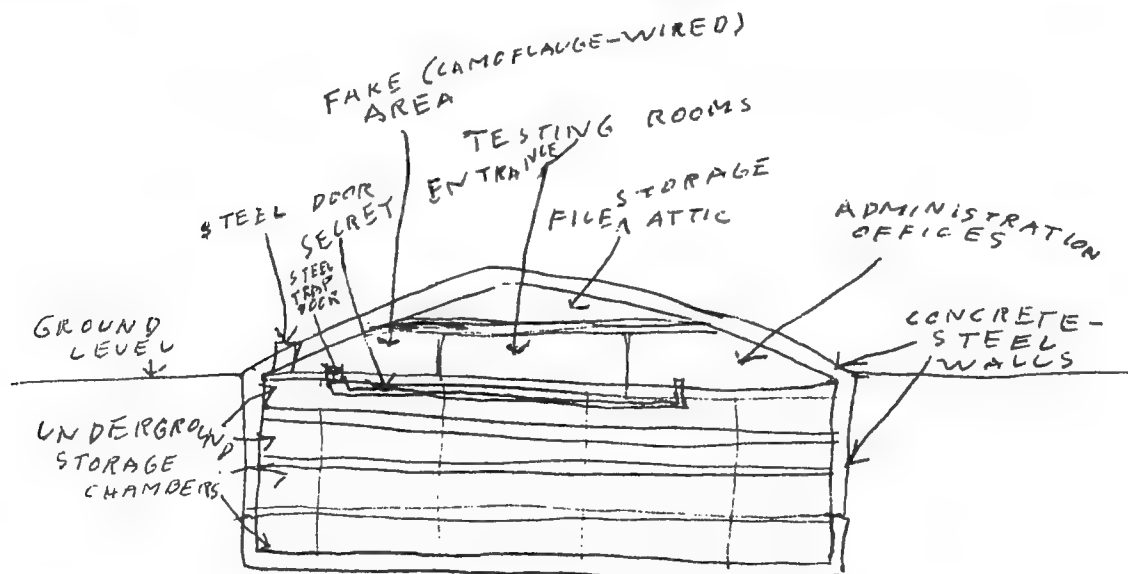
Religion is not only the opiate of the people... it is their arsenic.
 Anonymous

FROM THE SAME READER SEVERAL MONTHS LATER

Avoid referring to religion in ways which some might construe to be derogatory. You may end up alienating a lot of people.
 Anonymous

AS LONG AS WE HAVE COME THIS FAR, YOU MIGHT AS WELL HEAR ABOUT A CONTRIBUTION FROM ONE OF OUR YOUNGER MEMBERS: THE MISTREATED CHILDREN'S SANCTUARY

Look at what my super imagination has come up with now!!



THE MISTREATED CHILDREN'S SANCTUARY

In the year 2100 they have the bad-parent problem all solved. Whenever a child feels he is being mistreated, he contacts the nearest M.C.S. and ^{can} come immediately. Someone is waiting for him, takes him through the secret passageway entrance, to the administration offices where his case is discussed. In the testing room he is tested for honesty. If his case is real and serious, he is placed in suspended animation in one of the underground storage chambers.

Naturally, his parents are notified and given the proper treatment.

-continued next page-

The children can't feel any disappointing passage of time, and they are kept in suspended animation until their parents are cured (the 22nd Century has many great super sciences), or, if their parents are incurable, until better places are found for them. The super-strong walls are for protection against attack and the fake area is a trap for intruders.

The best of luck in the universe,
Forever yours,
James Errante, Fort Worth, Texas

A PROPOSAL TO COLLECT NAMES OF PEOPLE AND SOCIETIES WHO MIGHT BE INTERESTED IN LES

I am writing to make a proposal, which should be published in FWR for discussion as well as for effect. It is the same idea I presented once before, and I (not you) never followed up on. I had said at one of the meetings at the Georgetown Branch Library that we ought to recruit in places where we felt that the reception would be good. You have tried the medical professions, not only because doctors are receptive due to their occupations, but also because we need them. I suggested that we try the various atheist groups since life after death does not exist for them, and besides, I'll bet that I am one of the few practicing, traditional religious members, i.e, most members are in fact atheists, or members of a church with modern, liberal views of life and religion.

It would seem wise to me, then, to get a list of such societies and to get members of LES who are also members of such societies to interest these groups. Using the FWR newsletter, then, let me propose that A) a list of approachable agencies, groups, etc. be maintained via suggestions from readers, and B) we request that LES members who are also members of a published society make this known to LES. Let us just try to collect names of people and societies for a few months. Then let us approach the societies, by letter from LES HQ and simultaneously from members. Discussion should also center around what kind of letter or introductory statement should be issued, as we collect the names.

To start the ball rolling, I nominate: Freethinkers of America, 257 West 38th Street, NYC, NY 10018. Their magazine is called The Age of Reason, published 6 times a year. I am a member (but NOT a believer!)

Best of luck in all your work.

Sincerely yours,

Vincent Mooney, Jr., Vancouver, Wash.

AN ATTORNEY HAS PRACTICAL SUGGESTIONS FOR THOSE WISHING TO BE FROZEN IN EVENT OF DEATH. THE DETAILS MUST BE WORKED OUT WELL AHEAD OF TIME.

The delays experienced by Russ Stanley and Steve Mandell between passing and preservation point up a serious consideration. It appears more time should be devoted to preparation than has been.

Suggest that anyone contemplating preservation by freezing establish a working relationship with a close friend or relative - who can handle all details at critical time. Details must have been worked out long prior to the last moment.

Recommend hospitals, funeral homes, local ambulance services be consulted and this problem discussed. Suggest LES coordinators

obtain information from these offices. You may wish to suggest an inquiry form letter. Letter could request information or procedure to be followed to assure no time delay after passing. Suggest you would wish to know exactly what would be required by the hospital, or funeral director, for them to proceed immediately with necessities to freeze at earliest possible time. This would permit one to assure legal and other details were taken care of before crucial period.

Suggest law in various states be checked to assure cryogenic preparation and storage is legally possible. This can be done by checking states' statutes in various states. Possibly letters to the funeral directors will bring out the local regulations for preserving. Next-of-kin permission is probably required in all the states, since the deceased usually immediately becomes property of the surviving spouse or other nearest relative.

Also, where state requires permission from next-of-kin for such preservation, suggest this too be assured prior to death by obtaining a written, witnessed statement from the two most likely survivors who would be responsible for giving such permission. Recommend several copies be retained and distributed to those offices which would require such evidence at some time prior to death.

These preparations should be contemplated such as a will or life insurance. However, cryogenic storage preparation, I would think, should take precedence over will and insurance, as storage involves oneself, whereas latter provide gifts to survivors.

Sincerely,
Leo J. Barrett, Waterbury, Conn.

Editor's comment:

Many of us in LES would urge that members make arrangements for perfusion and freezing in the hospital. Too much time is lost getting the person to the funeral director. Besides, the place where the scientifically trained personnel are, and where the proper equipment is, is in the hospital or clinic. Let us second Mr. Barrett's urging that you prepare arrangements as soon as possible.

PUBLIC APATHY AND OUR RESPONSIBILITY

Most of the people I have spoken with on the subject are interested but not to the point of doing anything yet. Nevertheless, they watch 21st Century on TV faithfully and believe it never knowing our groups are partly responsible for its content. They are just curious. Certain ones feel it is morally wrong. They will probably feel this way while parents, wives and children die. But I often wonder if they will have any second thoughts when it comes their time? ... I feel it my duty to inform people of the pros and cons and let them decide for if one is too fearful of the future and can't adjust, it might be better if he doesn't try. Yet he should have the choice. I hope our potentials are used wiser than they have been in the past. If they are not, none of us will make it, yet it will be fun to try.

Leroy Catron, Florence, Ky.

NOTE: The information page listing coordinators will be found in preceding and following newsletters.

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Life Extension Society
2011 Mth Street N.W.
Washington, D.C. 20036



The artist, Ernest Fiore's, impression of the new LES building.

Vol. 5, No. 54
"February" edition 1969
(published late)

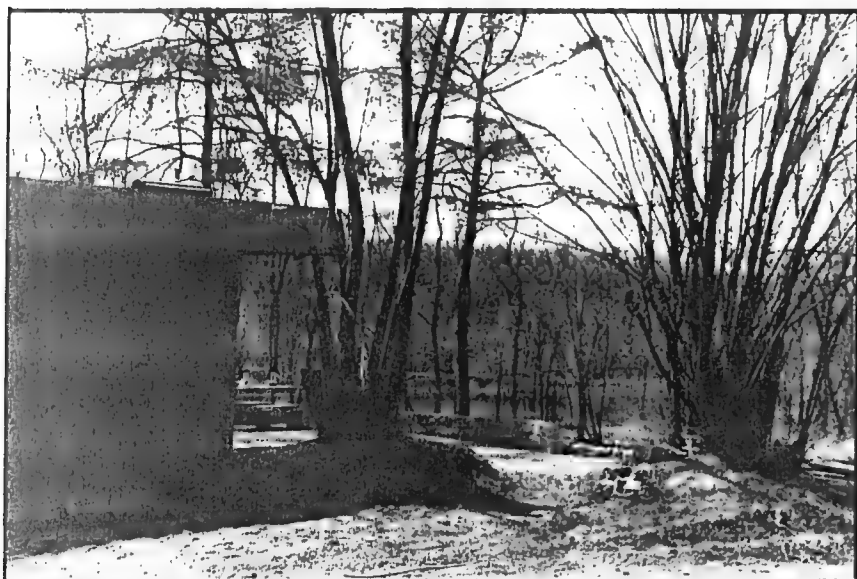


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



STUDENTS AND
RETIRED PERSONS
NOTE OPPORTUNITY
FOR VOLUNTEER
WORK WITH LES.

-see page 2-

Views of LES
lab and pond
in very early
spring.



-copyright 1969-

A REPEATED PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR AND ADDITIONAL
VOLUNTEER HELP IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer staff in addition to what we now have. Certainly here are some people who have the time. There must be many persons who feel they are now engaged in relatively meaningless activity. We doubt that a person could find a more important area of work than the extension of life. We appeal to retired persons, to students looking for interesting work for the summer, or to members who might spend their vacations, or part of their vacations, working at the LES place.

JOB OUTLINE: In previous issues of the newsletter we have sometimes listed the many tasks that need to be done. The list is almost endless encompassing all of those tasks of an organization, a laboratory, a farm and a recreation area. (The present staff is spreading itself too thin and as a result your newsletter is unconscionably late.)

We make a plea for volunteers, for dues would have to be raised too much, at our present size, to hire help. Many organizations have found that in their beginning stages they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money. The problem is locating the person with sufficient time and the willingness to help.

There is not much that LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. The old farmhouse at the LES "center" is available. Anyone interested must be warned that it is extremely primitive, yet it does have an air conditioning unit, refrigerator, and electric stove. Wildlife, especially birds, abounds. The LES lab is a hundred yards or so away. The land is about 19 acres in size with streams, pond and other buildings some of which may be suitable for camping out (for those who are young and hardy).

IF YOU ARE THE PERSON WE ARE LOOKING FOR, PLEASE CONTACT US. IF YOU KNOW OF SOMEONE INTERESTED, PLEASE URGE THEM TO ACTION. THERE ARE LOTS OF ALTERNATIVES. Naturally we don't expect the volunteer to do everything. ANY HELP WE CAN GET WILL BE A BOON TO LES. IF ANY OF THE ABOVE INTERESTS YOU, OR IF YOU HAVE ANY SUGGESTIONS OR IDEAS, PLEASE WRITE TO US.

LES GET-TOGETHER IN L.A. AREA EVERY THIRD SUNDAY AFTERNOON

There will be an "Open House" to get acquainted and for discussion at the home of Hermosa Beach, California Coordinator, Rosario Coco (834 5th Street, Hermosa Beach, Calif., one block off Pacific Coast Highway), every third Sunday of the month from 3:00 P.M. to later in the evening. Please try to attend. Everyone is welcome.

IN THE MIAMI, FLORIDA AREA. Please note the phone number of David Gridley, Opa Locke, Florida, who would like to begin meetings.

IN NEW YORK CITY contact Louis Sicilia, 70 W. 108th St., who has taken over for Emmett Baker Groseclose.

LETTERS FROM READERSBE WARY OF BOTH CHURCH AND STATE
by Richard Radford

John Sutcliffe's suggestion that articles presenting the philosophical issues involved in life extension strikes to the heart of the problem. To paraphrase John Maynard Keynes, people who believe they know nothing of philosophy are actually usually the slaves of a defunct philosopher. In the current case, many people observe no philosophical issue in the matter of cryogenic suspension, and hence are not reached by the beauty of the concept involved. The philosophical base of this movement is a deep commitment to life; a belief that a state of stagnation, or "nothingness", is repugnant and unbecoming to the human animal; a positive and optimistic appraisal of the future development of the race; and a burning conviction that we are, as individuals, competent to survive and contribute in the most infinite variety of environments.

This affirmative and vibrant view of life runs counter to all the prevailing philosophical sophisms. We are told that men are sinful, created to suffer and find no release save in death and decay. We are told that men are helpless, the doomed victims of a world "they never made". We are told that the men of ability, the men of vision and judgment and dedication, are exploiters who trample the "oppressed" and must be cut down in the name of the "needy". We live among savages who worship death, and thus put no premium on life, or its extension.

This is our key obstacle, and yet it is not a formidable opponent, or even a worthy one. Its defeat can be precipitated by a two-pronged attack on our part. First, as several readers have suggested, we must let people know of our alternative to the grave. The greatest tragedy is for a rational man to be buried, who would have chosen cryogenics had he known of it. But just as important, we must spread the philosophical message; the word that a body of persons exists which refuses to accept death as a consequence of life. The choice must be enunciated, so that the lines may be drawn. If a man realizes that by turning his back on cryogenic suspension he reveals his greater preference of death over life, he may be prompted to reexamine the archaic convictions which led him to his original decision. When every individual in the communicating world correctly observes the philosophical underpinnings of this choice, can we believe that our goals will not be widely endorsed? At the very least, the leaders of the opposition will be exposed as death-loving frauds posturing as friends of humanity, and perhaps ^{be} taken less seriously.

It need hardly be mentioned that the highest circles of ~~the~~ resistance exist within the Christian church. I do not propose we engage in active espousal of atheism, partly because it is a contradiction in terms to expect rational dialogue with a Christian, and largely because it's a boring, pointless, and one-sided battle. But we should be realistic in our approach, and avoid any argument or statement calculated to appeal mainly to a Christian mind.

BE WARY OF BOTH CHURCH AND STATE -continued

The second major area of danger to our movement is the temptation to seek aid from the government. What a horrible climax to all the past struggles (largely yours, rather than mine), if cryogenics comes to an end under the control of a grinning numbskull on the Potomac. If this movement is to have any meaning, if there is to be any true and lasting accomplishment in developing a better or longer life for the life-oriented, we must maintain the strictest separation from governmental activities. Granted, the day will come when a federal grant may be available. It may even happen that no comparable private assistance will appear. But the day LES accepts governmental support will mark the end of all the bright new dreams.

----- The record of history provides no example of a great or even significant invention issuing from a government lab. The exceptions -- the atomic bomb, for example, and nerve gas -- prove the true area of governmental ability. No creative or life-giving results flow from federal programs because this is not the role of government. A movement such as LES would stifle under the clumsy hand of the "beneficent" bureaucrat, who would have no understanding of the nature of our efforts, and no comprehension of the goal.

If we follow a program of widespread education, both as to the availability of cryogenic suspension and concerning the principles involved; and if we steer a wide path around both church and state; I can't help but maintain our words will prevail.

* * *

BOOKS AND ARTICLES OF NOTE

POLYWATER Lippincott, Stromberg, Grant and Cassac, writing in Science, 27 June 1969, confirm the existence of an unusually stable form of water with virtually queer characteristics reported earlier by scientists from the USSR, Deryagin, Churayev, and Fedyakin.

This polywater was originally reported to be found to grow or form at the ends of an extremely small capillary tube of ordinary water.

The relevance for cryobiology is the report that polywater freezes or solidifies at -40°C or lower, "to a glass-like state with a substantially lower expansion than that of ordinary water when it freezes." The bonds within polywater are extremely strong. An obvious thought is if this polywater could be substituted for water within organisms before freezing, polywater could with the addition of cryoprotective agents make passage into the frozen state less traumatic. There will be difficulties for researchers, however. Currently the method of production of polywater only produces extremely small amounts.

* * *

THE PROMETHEUS PROJECT by Gerald Feinberg, professor of physics at Columbia and Rockefeller universities, is a book stating the need of mankind for long range goals. He discusses goals in the past usually formulated by one or more great men. This system is no longer

-continued-

THE PROMETHEUS PROJECT -continued-

acceptable. "What we need instead is some method by which a large part of humanity can cooperate in formulating these goals and convincing all men of their desirability, and to this end I am proposing the Prometheus Project, a cooperative effort by humanity to choose its long-term goals." (page 180-1, Doubleday & Co., publisher)

Professor Feinberg has been very supportive of the freezing movement, which in part is an effort at immediate survival and preservation with the hope of partaking in long-term goals in the future. Survival into the future may depend on the type of long-term goals established. The book is concise and well worth reading for both perspective and action.

THE IMMORTALIST, by Alan Harrington, Random House.

According to the review in the New York Times, June 20th, this author, Mr. Harrington, goes right to the point: death is no longer acceptable. Mankind and science has the means of defeating death. We should go to work and not let previous mythologies and rationalizations impede us. Harrington apparently has some rather brilliant insights about mythology not previously brought forward. (A longer review from one of our members would be welcomed by this newsletter.)

A SMALL REVOLUTION IN LES. NEW DIRECTIONS OF EFFORT

At an LES meeting in Baltimore recently the suggestion was made that we now have our laboratory and storage center fairly well along to completion and our membership and funds have been suffering grievously from all the effort and attention going to land and lab. Now it is time to shift our attention and effort back to increasing membership, and fund raising.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of coordinators are new. We don't know every coordinator personally, but we hope we made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she can. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger, Dr. Roy, and Dr. Able(213)OR7-3153, all of whom have made themselves available for the best of advice in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246	even
Albany, N.Y.	(518)HE 8-1228	Richard Mende	mostly
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel	
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336	
Baltimore	(301)338-1191	Ted Brown	
Baltimore	(301)467-9147	Wesley Walton	
Berkeley	(415)525-7114	Art Quaife	
Bishop's St., Eng.	3540	Geoffrey Dennis	
Boston	(617)254-6521	Ed Randall	
Camp Hill, Pa.	(717)737-1271	Doug Jamnicki & Tom Longshaw.	leave message
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella	
Caracas		Kurt Bantelmann	
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen	
Vancouver, Wash.	(Ask Information)	Vincent Mooney, Jr.	
Columbus, Ohio	(614)888-8855	Vaughn Owens	

-continued on page 7-

L I F E E X T E N S I O N S O C I E T Y

2011 "N" Street, N. W.
Washington, D. C. 20036
June 9, 1969

FINANCIAL STATEMENT

<u>ASSETS</u>	8 Month Period Ending June 9, 1969	Fiscal Year Period Ending Sept. 30, 1968	Fiscal Year Period Ending Sept. 30, 1967
Petty Cash	\$ 20.00	\$ 20.00	\$ 33.01
Bank Balance	455.50	41.32	233.63
Savings Balance	1,554.06	1,517.81	18,593.85
LES Farm*(& lab)	<u>17,659.57</u>	<u>17,608.68</u>	-
Less:	19,489.13	19,183.31	18,915.49
Advance by Cooper	<u>217.57</u>	<u>326.32</u>	-
Total Assets	\$ <u>19,271.56</u>	\$ <u>18,861.99</u>	\$ <u>18,915.49</u>
<u>LIABILITIES</u>			
5% Note (4/13/67)	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00
Interest Payable	502.50	437.50	137.50
LES Capital	<u>2,769.06</u>	<u>2,424.49</u>	<u>2,777.99</u>
Total Liabilities	\$ <u>19,271.56</u>	\$ <u>18,861.99</u>	\$ <u>18,915.49</u>
<u>INCOME</u>			
Dues & Subscript.	\$ 455.00	\$ 740.50	\$ 1,120.14
Donations	1,074.01	784.60	1,230.09
Interest	<u>36.25</u>	<u>269.21</u>	<u>387.35</u>
Total	\$ <u>1,565.26</u>	\$ <u>1,794.31</u>	\$ <u>2,737.58</u>
<u>EXPENSES</u>			
Interest	\$ 543.00	\$ 807.50	\$ 366.67
Depreciation	170.00	-	-
Farm Maint.-taxes	42.63	-	-
Office-bank chg.	12.54	77.07	232.45
Postage	176.92	436.03	493.29
Research	-	48.61	178.90
Advertising	5.00	28.71	19.89
Printing	270.60	534.13	445.03
Conference	-	100.26	188.81
Misc.	-	<u>115.50</u>	<u>95.60</u>
Total	\$ <u>1,220.69</u>	\$ <u>2,147.81</u>	\$ <u>2,020.64</u>

Prepared by: William A. Albaugh
(without seeing farm)

*Bill can't resist having a little fun with us by calling it a farm. New construction consists of a 30'X 50' lab and storage center on 19 acres, the old farm buildings remaining in addition plus recreation sites and shelters.

INFORMATION AND HELP continued

Catania, Sicily	22.	12. 82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chattanooga	615	875-6507	S.A. Pawlowski
Chicago	312	276-9496	Joseph Jancsovcics, after 2 pm.
Chicago	312	726-3285	Don DeGrazia
Cleveland	216	662-7115	Jan Novak
Concord, N.C.	704	782-7800	Jerry Cullins after 4pm
Denver	303	355-2768	Howard Dranoff D.C.
Detroit	313	543-2619	Bob Ettinger, Also LI 6-4012
Florence, Ky	606	371-5817	Leroy Catron, after 6pm
France			Marc Collet, 54 Rosieres-Aux-Salines
Gettysburg	717	ED4-4977	Russ Norgan
Hagerstown	301	RE9-1304	Bill Physioc, evenings
Hartford, Ala.	205	588-3102	Michael Griffin, Also 588-3101
Hermosa Beach, Cal.	213	FR2-8075	Rosario Coco
High Point, N.C.	919	882-3744	Albert Campbell
Houston	713	H08-1559	Mrs. R.C. Philips
Hull, England		48114	Alan Worsley
Hyattsville, Md	301	422-9179	Al Lefebvre
Jacksonville, Fla.	904	384-4806	Seena Acklen
Johannesburg, S.A.		253-235	Robert Marin
Kapong, Malaysia			Ho Sai-Yuen
London (Stevenage)		2444	George Knowles
Lorient, France		64.29.81	Marcel de Lacroix-Herpin, Dr. (M.D.)
Los Angeles	213	MA8-8737	Rosario Coco
Man, Ivory Coast			Djoman Louis
Manchester, G.B.			John Sutcliff
Michigan City, Ind.	219	872-3835	David Riggs
Minneapolis	612	522-9184	Richard Koplow
Montreal	514	484-1591	Jim Clancy
Moscow, Idaho	208	882-3409	Patricia Gossett
Mt. Rainier, Md.	301	277-0246	BillaAlbaugh
Nagpur, India			S.S. Zadgaonkar
Nancy, France		53.50.30	Dr. Emile Leclerc (M.D.)
New York City			Louis Sicilia, 70 W. 108th
Oak Forest, Ill.	312?	687-1930	Fred Behrens
Opa Locka, (Miami)	305	681-3941	David Gridley, after 5pm leave message
Olympia, Wash	206	943-8918	Virginia Tharp
Ottawa	613	733-2255	Jane Ruptash
Paris	INV	58.22	Francaise Coulon
Pittsburgh, Pa.	412	563-4638	Mrs. Margaret Wyatt
Pittsburg, Ka.	316	AD1-8086	David Lemes
Rochester	716	244-4469	Neil Shapiro
San Jose	408	294-2866	James Lewis
South Bend, Ind.	see	tel.book	Eli Spicer
St. Petersburg	813	361-1691	Vicki Gerard
Swansea, G.B.		50989	Gerald Evans
Tacoma, Wash.	206	383-5495	Franklyn McDaniel
Toulon, France		92.70.15	Dr. Guillaume Roy (M.D.)
Trenton, N.J.	609	393-2643	Gerald Donsky
Tucson, Ariz.	602	793-7045	Jim Franklin
Tulsa, Okla.			Steve Reiner
Tunkhannock, Pa.	717	836-5761	Thomas DeWitt
Wilbraham, Mass.	413	596-8872	Mike Jacobs, 616-277-6325 holidays
Wolfville, N.Scotia	902	542-9945	Barry Mason, evenings

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C., 20036
-This is our mailing address above. We are not large enough to have offices as yet.

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#54

Jerry Cullins
6 Morris Street
Concord, N.C.
28025

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The artist, Ernest Fiore's, impression of the new LES building.

Vol 5, No. 55
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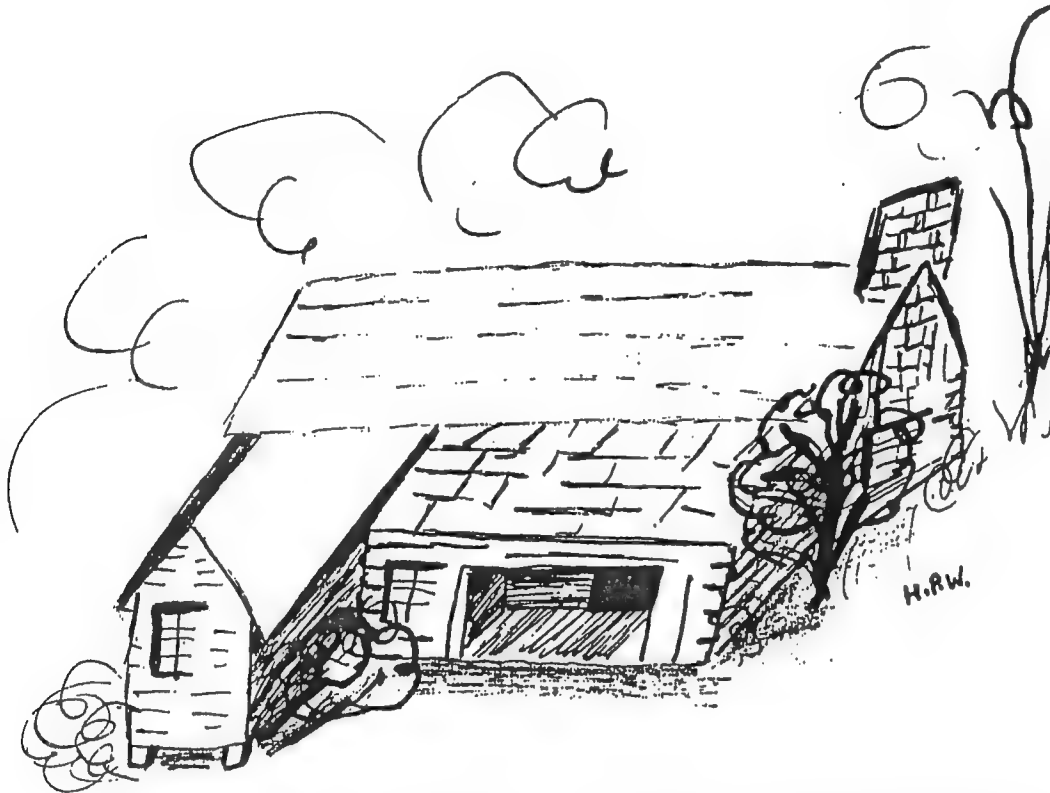


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



NOTE OPPORTUNITY
FOR VOLUNTEER
WORK WITH LES
-see page 4

Artist, Harriet Wellisch, lightly describes her work as "rough sketch depicting romanticized view of LES farm house as seen through eyes of "demented artist."

CONTENTS:

NOTE ON VARIOUS OPINIONS CONCERNING LES FUND DRIVE
AND VARIOUS OPINIONS IN LETTERS TO THE EDITOR.

IMPORTANCE OF ESTABLISHING LES NURSING HOME.

"WE ARE RELATIVELY IMMORTAL? -THAT'S NICE."

CONTINUED DEBATE ON FREEZING, RELIGION AND
THE GOVERNMENT.

REPEATED PLEA FOR VOLUNTEER DIRECTOR OR/& HELP.

A PLEA FOR FUNDS.

LIVE BRAINS AS SPACE MESSENGERS.

Meeting notes and coordinator's page.

-copyright 1969-

NOTE ON VARIOUS OPINIONS CONCERNING LES FUND DRIVE AND VARIOUS OPINIONS
EXPRESSED IN LETTERS TO THE EDITOR

In any new movement, like in almost any area of life, everyone has a slightly different idea of how we can best progress toward our goals. No one has claimed that LES has been overly aggressive in asking for funds for our last "drive" or request was two or three years ago. Everyone talked to suggests that we have a fund drive, but there is considerable difference of opinion on how the funds are to be used. Each letter or appeal that you receive has been written by an individual with his or her special ideas. A traditional solution has been to let each contributor designate which area he or she prefers. If you contribute, and we urge you to do so, please help us by indicating the direction you prefer, such as: research, land, buildings, low temperature storage equipment, increased membership, executive director, etc.

Similarly with the letters to the editor, we try to let everyone express his own opinion with as little rewriting and altering as possible. We have not tried to make the newsletter into a "selling-of-the-idea" organ in the slick Madison avenue sense. We have one of the greatest ideas and it can withstand honest reproduction of representative opinion even if the opinion is wildly various at times.

The Editor
F.W.R.
L.E.S.

IMPORTANCE IN ESTABLISHING OUR NURSING HOME

I would like to refer to the interesting article by Mr. J. Coleman Kitchen, jr. published in the F.W.R. issue of December 1968, Vol. 4 No. 52 and I would like to underline the importance to proceed with the construction of our nursing home offering attendance and care for those who wish to be frozen upon the moment of medical death. The L.E.S. members would be attended, consequently in the last moment of their lives by a team of experts and after the stages of freezing, their bodies would be settled in our storage building.

This nursing home, I think, should be built on our 19 acre tract, (near Washington, D.C.), as close as possible to the storage building. The institution could have at least 50 - 100 single bed-rooms and a reservation system could be pre-arranged.

I would also like to suggest that each patient deposit the sum required, for the full freezing process, upon entering the nursing home, and a fee, at cost, collected to compensate for the period stayed in it. A special fund could be created for the members who are unable to pay. Donations, gifts and contributions could be reserved towards that fund.

Modestly speaking, I think that funds should be collected as soon as possible to build this essential section on our grounds. Members of L.E.S. should start to send their contributions to our treasurer when the management committee will decide upon this important problem.

I respectfully submit these recommendations, hoping same will meet with your consideration and approval.

Greetings to all L.E.S. members from,

Robert F. Marin
Johannesburg.

"WHAT'S THAT? YOU SAY WE ARE RELATIVELY IMMORTAL? -THAT'S NICE."

I was impressed the way people took the moon-landing so nonchalantly. So I imagine if someone is brought back from being frozen and even rejuvenated, the average 'Joe Doakes' will shrug and say, "Interesting", and go on with his business. In a way that is a good thing, because it keeps controversy down.

I feel there would be much more interest by 'Mr. Average' in the outcome of the penant race, than a breakthrough in cyrogenics.

Constance, New York

CONTINUED DEBATE ON FREEZING, RELIGION AND THE GOVERNMENT.

I found that Richard Radford's letter in the February 1969 issue of FWR most interesting. The first three paragraphs, dealing with the philosophical implications and conflicts of cryonics, were well stated, indeed stirring. I certainly agree that there is no need for us to become involved in the "active espousal of atheism", though for somewhat different reasons than those expressed in the article. In practical terms such an alliance would only make things more difficult for the cause of cryonics. There are cases of job discrimination and hate campaigns against those who become militant in this area. It would be sad if the name of cryonics came to be associated in the public mind with this controversial and unpopular movement, and the long-term progress of freezing were retarded as a consequence of an ill-conceived position taken in the present.

I do not agree with Mr. Radford's views about government aid. It will be a great day for freezing when we reach a sufficiently high level of acceptability to be considered for a Federal grant. It is a grossexaggeration to suggest that all who live and legislate on the Potomac are 'grinning numb skulls', and it is a fact that government labs have produced "life-giving" results....for example, the magnificent space program, which has born such fruits as weather satellites and earth resource study capabilities, the development of more productive grains to feed the masses of Afro-Asia, and (reported in the March-April, 1969 issue of Cryobiology) a new method for quantitatively determining the amount of freezing damage in kidneys. In a sense, the day of government support of cryonic research, although not of freezing humans), has already arrived. However, at present only a comparative handful of individuals are engaged in cryobiological research. Imagine how much an Apollo-size program could increase the chances of suspended animation within our lifetimes!

J. Coleman Kitchen, jr.
Potomac, Maryland

NOTICE ALL ROCHESTER LES MEMBERS.....

Please insert in the next newsletter that any and all Rochester area members are urged to contact me at their earliest opportunity so I can find out how many members are still active, and begin on plans to try to 'rejuvenate' LES here in Rochester. As it is now, I am only in contact with one member directly, a sad situation. But, I know there are others out there somewhere!

(See phone number on coordinator's page.)

-Neil Shapiro, Rochester, N.Y.

A REPEATED PLEA FOR A VOLUNTEER EXECUTIVE DIRECTOR AND ADDITIONAL
VOLUNTEER HELP IN THE WASHINGTON AREA

LES has been too large and its problems too many for sometime for the present volunteer staff to handle adequately. One solution is to locate intelligent volunteer staff in addition to what we now have. Certainly here are some people who have the time. There must be many persons who feel they are now engaged in relatively meaningless activity. We doubt that a person could find a more important area of work than the extension of life. We appeal to retired persons, to students looking for interesting work for the summer, or to members who might spend their vacations, or part of their vacations, working at the LES place.

JOB OUTLINE: In previous issues of the newsletter we have sometimes listed the many tasks that need to be done. The list is almost endless encompassing all of those tasks of an organisation, a laboratory, a farm and a recreation area. (The present staff is spreading itself too thin and as a result your newsletter is unconscionably late.)

We make a plea for volunteers, for dues would have to be raised too much, at our present size, to hire help. Many organizations have found that in their beginning stages they can rely on volunteers and they know the person volunteering is interested in the idea and not in it for the money. The problem is locating the person with sufficient time and the willingness to help.

There is not much that LES can offer except to take part in this very unusual, often exciting, futuristic endeavor. The old farmhouse at the LES "center" is available. Anyone interested must be warned that it is extremely primitive, yet it does have an air conditioning unit, refrigerator, and electric stove. Wildlife, especially birds, abounds. The LES lab is a hundred yards or so away. The land is about 19 acres in size with streams, pond and other buildings some of which may be suitable for camping out (for those who are young and hardy).

IF YOU ARE THE PERSON WE ARE LOOKING FOR, PLEASE CONTACT US. IF YOU KNOW OF SOMEONE INTERESTED, PLEASE URGE THEM TO ACTION. THERE ARE LOTS OF ALTERNATIVES. Naturally we don't expect the volunteer to do everything. ANY HELP WE CAN GET WILL BE A BOON TO LES. IF ANY OF THE ABOVE INTERESTS YOU, OR IF YOU HAVE ANY SUGGESTIONS OR IDEAS, PLEASE WRITE TO US.

LES GET-TOGETHER IN L.A. AREA EVERY THIRD SUNDAY AFTERNOON

There will be an "Open House" to get acquainted and for discussion at the home of Hermosa Beach, California Coordinator, Rosario Coco (834 5th Street, Hermosa Beach, Calif., one block off Pacific Coast Highway), every third Sunday of the month from 3:00 P.M. to later in the evening. Please try to attend. Everyone is welcome.

IN THE MIAMI, FLORIDA AREA. Please note the phone number of David Gridley, Opa Locke, Florida, who would like to begin meetings.

IN NEW YORK CITY contact Louis Sicilia, 70 W. 108th St., who has taken over for Emmett Baker Groseclose. Phone 663-2562

A PLEA FOR FUNDS

The time has come for the LIFE EXTENSION SOCIETY to take an active role in the support of basic scientific research related to the freezing, and reanimation of the human body.

It is our belief that the demonstration of a successful freezing and recovery of a human, would have the result of an immediate acceptance by the entire medical profession and the public in general of the freezing hypothesis, that is that at death or at the final, terminal stages of any fatal disease the body should be frozen to await the time when medical science has learned how to cure the disease, (old age included). If a successful reanimation could be demonstrated, the current objections of the medical society, (i.e., too much damage is done to a human body when it is frozen for it to ever be brought back to life, and why give them hope when there is so little chance of it working), would be outdated, and doctors would routinely proscribe freezing at the deathbeds of their patients. There would be adequate clinical facilities available for freezings in all major hospitals and there would be trained personnel.

We believe that the fastest way to achieve our goal of demonstrating a successful reanimation would be to offer research grants to scientists interested in freezing. We hope to establish a foundation which would solicit proposals for research from cryobiologists. The ten found most promising in terms of increasing our understanding of how to freeze and reanimate the human body, would be given a yearly grant of around \$50,000. to carry out their proposals. We believe that in this way, in five or ten years a successful freezing and reanimation could indeed be accomplished, and the world would be convinced of the importance and practicality of freezing.

We are asking that you send your support today. With your money we will hire a professional fund raising organization to conduct a 'March of Dimes for Freezing'; and in this way raise a very large sum of money to support the urgent freezing research that needs to be done.

* * *

ADDED NOTE ON OUR FUND APPEAL

You may have received the above appeal separately in the mail. If for some reason you haven't, the appeal is reprinted in the newsletter along with other appeals, discussion and opinion. The above is written by an LES member, graduate school student, who will be completing his Ph.D and M.D. at Johns Hopkins and Harvard.

If you would consider contributing to LES, note envelope enclosed or/& the more complete form in the next newsletter (#56).

LIVE BRAINS AS SPACE MESSENGERS? from Medical World News, 7/18/59

Envision a detached, living human brain, bathed in a nutrient fluid and supplied with circulating fresh blood. Hook it up to transmitting equipment, put it aboard a space vehicle, and send it forth to explore our neighboring solar systems. The organic emissary, free of emotions like fear, joy, or despair, would be capable of space voyages requiring more time than a human lifespan, and would report intelligently on findings in distant space, particularly on the presence of any living beings.

Science fiction? No, a technological possibility. Dr. Herbert Franke, a physicist at Munich's School of Technology, postulates sending aloft missiles of living tissue, which he would call "Cyborgs" - for cybernetic organisms.

Whether the concept of space-traveling brains is found disturbing or exciting, a first step may have been made. At Case Western Reserve's school of medicine in Cleveland, researchers have kept excised rhesus monkey brains alive for extended periods, with life-support systems that include oxygenators and artificial kidneys.

-Helen Silver, Goleta, Calif.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of coordinators are new. We don't know every coordinator personally, but we hope we made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she can. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger, Dr. Roy, and Dr. Able (213)OR7-3153, all of whom have made themselves available for the best of advice in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try (301)277-0246	even
Albany, N.Y.	(518)HE 8-1228	Richard Mende	mostly
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel	
Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336	
Baltimore	(301)338-1191	Ted Brown	
Baltimore	(301)467-9147	Wesley Walton	
Berkeley	(415)525-7114	Art Quaife	
Bishop's St., Eng.	3540	Geoffrey Dennis	
Boston	(617)254-6521	Ed Randall	
Camp Hill, Pa.	(717)737-1271	Doug Jamnicki & Tom Longshaw.	leave message
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella	
Caracas		Kurt Bantelmann	
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen	
Vancouver, Wash.	(Ask Information)	Vincent Mooney, Jr.	
Columbus, Ohio	(614)888-8855	Vaughn Owens	

-continued on page 7-

INFORMATION AND HELP continued

Catania, Sicily	22.	12. 82	Prof. & Dott. Giuseppe Valenti (M.D.)
Chattanooga	615	875-6507	S.A. Pawlowski
Chicago	312	276-9496	Joseph Jancsovcics, after 2 pm.
Chicago	312	726-3285	Don DeGrazia
Cleveland	216	662-7115	Jan Novak
Concord, N.C.	704	782-7800	Jerry Cullins after 4pm
Denver	303	355-2768	Howard Dranoff D.C.
Detroit	313	543-2619	Bob Ettinger, Also LI 6-4012
Florence, Ky	606	371-5817	Leroy Catron, after 6pm
France			Marc Collet, 54 Rosieres-Aux-Salines
Gettysburg	717	ED4-4977	Russ Norgan
Hagerstown	301	RE9-1304	Bill Physioc, evenings
Hartford, Ala.	205	588-3102	Michael Griffin, Also 588-3101
Hermosa Beach, Cal.	213	FR2-8075	Rosario Coco
High Point, N.C.	919	882-3744	Albert Campbell
Houston	713	HO8-1559	Mrs. R.C. Philips
Hull, England		48114	Alan Worsley
Hyattsville, Md	301	422-9179	Al Lefebvre
Jacksonville, Fla.	904	384-4806	Seena Acklen
Johannesburg, S.A.		253-235	Robert Marin
Kapong, Malaysia			Ho Sai-Yuen
London (Stevenage)		2444	George Knowles
Lorient, France		64.29.81	Marcel de Lacroix-Herpin, Dr. (M.D.)
Los Angeles	213	MA8-8737	Rosario Coco
Man, Ivory Coast			Djoman Louis
Manchester, G.B.			John Sutcliff
Michigan City, Ind.	219	872-3835	David Riggs
Minneapolis	612	522-9184	Richard Koplou
Montreal	514	484-1591	Jim Clancy
Moscow, Idaho	208	882-3409	Patricia Gossett
Mt. Rainier, Md.	301	277-0246	BillaAlbaugh
Nagpur, India			S.S. Zadgaonkar
Nancy, France		53.5P.30	Dr. Emile Leclerc (M.D.)
New York City			Louis Sicilia, 70 W. 108th
Oak Forest, Ill.	312?	687-1930	Fred Behrens
Opa Locka, (Miami)	305	681-3941	David Gridley, after 5pm leave message
Olympia, Wash	206	943-8918	Virginia Tharp
Ottawa	613	733-2255	Jane Ruptash
Paris	INV	58.22	Francaise Coulon
Pittsburgh, Pa.	412	563-4638	Mrs. Margaret Wyatt
Pittsburg, Ka.	316	AD1-8086	David Lemes
Rochester	716	244-4469	Neil Shapiro, or phone R.Greene
San Jose	408	294-2866	James Lewis
South Bend, Ind.	see	tel.book	Eli Spicer
St. Petersburg	813	361-1691	Vicki Gerard
Swansea, G.B.		50989	Gerald Evans
Tacoma, Wash.	206	383-5495	Franklyn McDaniel
Toulon, France		92.70.15	Dr. Guillaume Roy (M.D.)
Trenton, N.J.	609	393-2643	Gerald Donsky
Tucson, Ariz.	602	793-7045	Jim Franklin
Tulsa, Okla.			Steve Reiner
Tunkhannock, Pa.	717	836-5761	Thomas DeWitt
Wilbraham, Mass.	413	596-8872	Mike Jacobs, 616-277-6325 holidays
Wolfville, N.Scotia	902	542-9945	Barry Mason, evenings

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C., 20036
 -This is our mailing address above. We are not large enough to have
 offices as yet.

#55

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2011 "N" Street N.W.



The artist, Ernest Fiore's, impression of the new LES building.

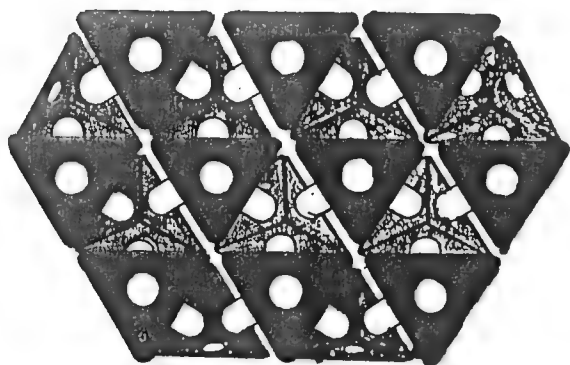


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



A model of polywater. Hydrogen atoms are white. Oxygen atoms are black or grey tetrahedrons. Hydrogens equidistant between oxygens, thus tight bonding.

NOTE OPPORTUNITY
FOR VOLUNTEER
WORK WITH LES
see page six.

CONTENTS:

MORE ON POLYWATER, THAT ANOMALOUS, QUEER, OFFSPRING OF MOTHER WATER.

POSSIBILITY THAT BRAIN ONLY NEED BE REANIMATED & OTHER COMMENTS.

BOARD FORMED IN CALIFORNIA TOWARD GETTING A MULTI-UNIT LOW-TEMPERATURE STORAGE UNIT FOR WASHINGTON LES LAB.

IMPORTANCE OF MAINTENANCE OF LES MEMBERSHIP AND ENDOWMENT AND CONCERNING POSSIBILITIES OF RESEARCH AND CRYOGENIC STORAGE.

LES FUND DRIVE. VARIOUS OPINIONS.

A PLEA FOR A VOLUNTEER DIRECTOR FOR LES AND OTHER VOLUNTEER HELP.

LES OBTAINED SOME EXCELLENT, MUCH APPRECIATED, SUMMER HELP.

INFORMATION AND HELP. COORDINATOR'S PAGES.

MORE ON POLY, ANOMALOUS, QUEER, OFFSPRING OF MOTHER, WATER

We reported on polywater, that very strange new noncrystalizing water, several issues ago in FWR.

Inspite of our crystal clear elucidation of this new phenomena of Russian science, members insist on asking, "What is this new polywater? I really didn't understand it."

THE SATURDAY REVIEW OF LITERATURE has now come to everyone's aid by devoting three articles on this crazy type of water in their September 6, 1969 issue. (If the title above seems flip, it isn't. This new water, which is thought by some not to freeze, is described by each of the words in the title above.) If you are still in a fog after the following description, we urge you to read SR for the date indicated or Science magazine which carried an article in June.

LET US BE PLAIN that the significance of this new heavy water seems to be that it may be used in safer freezing and reanimation of biological organisms -- which means eventually safer for you and me. This is merely a hypothesis. Research may not prove this. However, it is obviously worth investigation.

Now to try to say something understandable about this new water: It was primarily discovered by the Russians. Naturally Western scientists are leery of anything coming out of the USSR, not to mention claims that this 'water' would neither boil nor freeze at any respectable temperature. Even the production of this anomalous water was difficult to believe. It is produced by allowing ordinary water to condense inside of very small tubes. These tubes are sometimes the diameter of a human hair inside. Naturally most scientists thought what was collected must have come from the glass itself, and not from the original water. However, too many scientists got the same queer water by following the same recipe, and British and American scientists found out much more about its structure. It is thought that the hydrogen atoms are exactly midway between the oxygen atoms in a polymer like form four times as heavy as ordinary water. Somehow the bonds are very strong which inhibits or prohibits freezing and only allows boiling as high as 800 C. Polywater will harden, ^{at minus 40 to 50 C.} but technically some scientists say it will not freeze which means the water crystalizes and expands at low temperatures. Thus, the lack of crystalization and the lack of expansion may be a boon to preservation of organisms at low temperatures.

Any of the statements about polywater above are meant to be tentative because there seem to be various degrees of polywater not to mention that analysis of this new phenomena is still unfinished.

POSSIBILITY THAT BRAIN ONLY NEED BE REANIMATED & OTHER COMMENTS

Reading the many letters from interested readers in your Dec. 1968 and Jan. 1969 FWR's was highly enjoyable. It also calls upon me to make some comments.

Firstly, I must make an answer to the anonymous doctor whose letter was printed in FWR Vol. 5, #53, page 3 & 4. I disagree with the contention that faith in reanimation for the people frozen today is "quite probably unjustified." My main reason is that I have come to the conclusion, recently that there is a perfectly feasible reanimation technique even now in sight.

I have a hunch, a slightly educated one I would suppose, that the brain itself will prove to be relatively hardy and that even today's frozen humans will have, possibly, brains which can be revived. All that remains, then, is to transfer the brain from the diseased, freeze-damaged, possibly old body to a younger clone body. People have been talking about brain transplants for some time now, and I am convinced that they will become, possibly sooner than one might think, using semi-automated, possibly computer-lined surgical machines for the actual manipulations involved. Cloning and brain transplants seem to be in the cards already, and once transplants have been proven reliable, very meaningful brain-freezing experiments can be made, involving reimplanting the frozen-thawed brain back into the donor organism and observing the result.

This brings me to another point, namely Dave Gridley's query, "How can, (soliders in Viet Nam), be offered our services? I believe there is only one way we can get anywhere here, and that is to form a group of students who will agree to make a great stir and demand freezing insurance for themselves, when they are drafted. I for one plan to take this route, and another fellow who was drafted, just today, may be so persuaded. After all, what was that about 'Life, liberty and the pursuit of happiness?' Just empty prattle?

Greg Fahy
Irvine, California

BOARD FORMED IN CALIFORNIA TOWARD GETTING A MULTI-UNIT LOW TEMPERATURE STORAGE UNIT FOR WASHINGTON LES LAB

"So our #1 project should be for all groups to start donating a fund for the installation of a \$12,000 cryo-storage unit in or by your lab building in (near) Washington. This is so that we can have our own facility."

The above is from a letter from Arne Johnson. He indicates there are no good facilities in California plus many squabbles between and among groups. He is helping to form a board of directors for an LES group to achieve the purpose of getting at least one multi-unit storage unit in operation.

THE IMPORTANCE OF MAINTENANCE OF LES MEMBERSHIP & ENDOWMENT,
AND CONCERNING POSSIBILITIES OF RESEARCH AND CRYOGENIC STORAGE.

Since first reading of the concept of life preservation through freezing several years ago, I have been impressed by the efforts of the Life Extension Society keeping this idea viable. The desire to acquire physical facilities as soon as possible is certainly understandable, but no society is likely to survive for very long unless it devotes an appropriate effort towards the maintenance of its membership and its endowment. What a great pity it would be if LES were to devote the totality of its energy and resources to the herculean task of perfecting the means of freezing and resuscitation and then flounder when this task proved impossible for a small group, however dedicated. It may be that the long range goal of the society would be best served by devoting some effort now to fund raising and increased membership. For example, there are almost certainly many older people who are completely unaware of LES. A systematic effort might convince certain of these people to add codicils to their wills granting funds to LES either for continued research or possibly even for cryogenic storage. Perhaps a standard legal form could be prepared by the society to make such an addition a simple matter. Further thought along these lines will surely reveal other means of eliciting that moral and financial support without which all other efforts will be in vain.

-Franklin Cocks, Waltham, Mass.

LES FUND DRIVE. VARIOUS OPINIONS.

No one knows with absolute certainty how to best raise funds and in what direction it is best to spend whatever funds are raised. Obviously we must try our best. There is general agreement that we appeal to our members and subscribers via special mailings and in the newsletter.

There is considerable difference of opinion on how to spend whatever funds are obtained. For example note the variety of opinions expressed in letters and articles in the last several newsletters.

Our last appeal was two or three years ago. One very generous person gave us a considerable loan, almost interest free, for land and a laboratory building for research and possible cryogenic storage. Nineteen acres of land has been purchased. The building has been erected and the grounds improved. All of this has been paid for. There are no mortgages or liens, except the loan outstanding to one of our own members. Our land and buildings are adequate but we are in need of the crucial thing: cryogenic equipment which can be used for both research and storage.

Our efforts the last few years carried out the suggestions of individuals and a group that we obtain land buildings and equipment in the event of an emergency need and for research. As stated we have everything except adequate equipment. Thus some of us would appreciate some funds for equipment which would cover most any emergency with ease, and for some research, rather than

V(56)5

LES FUND DRIVE --

the shoestring basis upon which our equipment now exists.

Most persons seem to agree that some low temperature storage equipment is necessary, though how much should be spent in this direction and what priority it should have are now matters of disagreement. (Note the various appeals, letters, and articles on this.) Some wish to raise funds for more professional fund raising. Others wish funds for research outside of LES. Some wish funds for research to be done by LES workers. Others would put a priority on increasing membership, improving the newsletter, and increasing the organizational efficiency of the society. Others would stress aging control research and storage of tissue specimens of endangered species. There are so many suggestions of what LES should do that it is difficult to list them all.

A common sense solution has been to let each contributor designate the area he or she prefers. If you contribute, and we urge you to do so, please help us by indicating the direction you prefer, such as listed below, or mention other suggestions. You may receive an appeal separate from the newsletter. However, if you haven't received the separate appeal, or if you haven't contributed already, may we induce you to consider the form below?

-----clip here-----

THE LIFE EXTENSION SOCIETY, a nonprofit, tax exempt society, needs your support --

- ☐ to purchase low temperature equipment for research and emergency storage.
- ☐ to establish an LES fund for outside cryobiological research.
- ☐ to improve the society and the newsletter, to increase membership.
- ☐ toward low temperature preservation of endangered species.
- ☐ other _____

I enclose my contribution of \$_____ to assist LES. (If you wish, check your preference above, or indicate other use.)

NAME _____

ADDRESS _____

CITY & STATE _____ zip _____

Please make your check payable to Life Extension Society, or to LES. Your contribution is tax deductible.

YOUR HELP IS GREATLY APPRECIATED. MANY THANKS!

A PLEA FOR A VOLUNTEER DIRECTOR FOR LES AND OTHER VOLUNTEER HELP

We have yet to find a volunteer director for LES. See especially our more lengthy pleas in previous newsletters. Or, write to us if you are interested. --To what better use could you put your life?

LES DID OBTAIN SOME EXCELLENT, MUCH APPRECIATED SUMMER HELP

If we did not find an exec director as yet, we did gain some marvelous assistance from LES members and friends this summer. Thanks go to Loretto Leger who spent a good part of her vacation making the old LES farmhouse move livable. Harriet Wellisch used part of her vacation to come from New York and help with art work and the newsletter. Al Lefebvre has been indefatigable during his vacation and several days or nights every week remodeling an LES building, helping with the lab, and with office work. Thanks go for various help at various times to John, Kathy, Bill, Danny, Marge and Ernie. If the membership was neglected during the summer (not unusual) the land and buildings were put in better condition thanks to all the above, and occasionally we had a bit of fun in the process. ---Apologies to those we may have forgotten and to those more at a distance who have volunteered but we didn't find the time to correspond properly and put them to work on projects.

Visitors and LES members dropped in on us for varying amounts of time during the spring and summer from France, India, Florida, New York, California, the Carolinas, and Canada. -And, almost forgot: Tennessee.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of coordinators are new. We don't know every coordinator personally, but we hope we made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she can. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger, Dr. Roy, and Dr. Able(213)OR7-3153, all of whom have made themselves available for the best of advice in freezing.

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Albany, N.Y.	(518)HE 8-1228	Richard Mende	mostly
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Antwerp, Belgium	(014)-30-157	Victor Peeters, or 014-30-336	
Baltimore	(301)338-1191	Ted Brown	
Baltimore	(301)467-9147	Wesley Walton	
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Boston	(617)254-6521	Ed Randall	
Camp Hill, Pa.	(717)737-1271	Doug Jamnicki & Tom Longshaw.	leave
Broomall, Pa.	(215)EL6-0903	C. Leonard Cella	message
Caracas		Kurt Bantelmann	
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen	
Vancouver, Wash.	(Ask Information)	Vincent Mooney, Jr.	
Bristol, Tenn.	(915)968-2327	Don Speer -after 4pm	
Georgetown, Ky.	(502)863-1576	Michael Greene	
Lake Zurich, Ill.	(312)438-6244	Ronald Schupp	
Worthington, Ohio	(614)888-8855	Vaughn Owens	
Mansfield, Ohio	(614)524-7577	Judy Cervinski -after 6pm	

INFORMATION AND HELP continued

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London (Stevenage)		2444	George Knowles
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Manchester, G.B.			John Sutcliff
Michigan City, Ind.	219	872-3835	David Riggs
Minneapolis	612	522-9184	Richard Koplow
Montreal	514	484-1591	Jim Clancy
Moscow, Idaho	208	882-3409	Patricia Gossett
Mt. Rainier, Md.	301	277-0246	BillaAlbaugh
Nagpur, India			S.S. Zadgaonkar
Nancy, France		53.50.30	Dr. Emile Leclerc (M.D.)
New York City			Louis Sicilia, 70 W. 108th
Oak Forest, Ill.	312?	687-1930	Fred Behrens
Opa Locka, (Miami)	305	681-3941	David Gridley, after 5pm leave message
Olympia, Wash	206	943-8918	Virginia Tharp
Ottawa	613	733-2255	Jane Ruptash
Paris	INV	58.22	Francaise Coulon
Pittsburgh, Pa.	412	563-4638	Mrs. Margaret Wyatt
Pittsburg, Ka.	316	AD1-8086	David Lemes
Rochester	716	244-4469	Neil Shapiro, or phone R.Greene
San Jose	408	294-2866	James Lewis
South Bend, Ind.	see	tel.book	Eli Spicer
St. Petersburg	813	361-1691	Vicki Gerard
Swansea, G.B.		50989	Gerald Evans
Tacoma, Wash.	206	383-5495	Franklyn McDaniel
Toulon, France		92.70.15	Dr. Guillaume Roy (M.D.)
Trenton, N.J.	609	393-2643	Gerald Donsky
Tucson, Ariz.	602	793-7045	Jim Franklin
Tulsa, Okla.			Steve Reiner
Tunkhannock, Pa.	717	836-5761	Thomas DeWitt
Wilbraham, Mass.	413	596-8872	Mike Jacobs, 616-277-6325 holidays
Wolfville, N.Scotia	902	542-9945	Barry Mason, evenings

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C., 20036
 -This is our mailing address above. We are not large enough to have offices as yet.

#56

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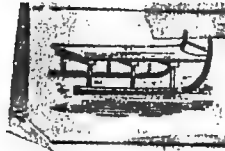
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Life Extension Society



The artist, Ernest Fiore's, impression of the new LES building.

Vol. -5, No. 57
"May" issue 1969
(published late)



FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



If we can resuscitate the old
barn on the LES place, we can
resuscitate anything or anyone.

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NOTE TO OUR LES READERS ABOUT SOME OF THE WILD & HERETICAL
VIEWS OF SOME OF OUR CONTRIBUTORS TO THE NEWSLETTER
NOTE ON OUR CONTINUING FUND DRIVE
SOMETHING ON THE PRESENT STATE OF AFFAIRS IN LES.

-copyright 1970-

REFLECTIONS ON AN UNTAMED EDEN

In September, I took a trip to Washington, D.C., (part vacation and part in answer to the call for volunteers). I advised Mr. Cooper that I could type, took a bit of shorthand, and was an artist ...of sorts. Ev though I might do a few sketches of the farmhouse, etc., take some photos and perhaps write a commentary for FWR. Literate I may be, but literary I am not...so bear with me as I attempt to relate my little venture to you.

It was early in the morning. Loaded down with sketch pads, pencils, camera, et al, I folded myself into Ev's Volkswagon and off we went. It was a long trip from Hyattsville, Maryland where I was staying, to the farm. To say I was thrilled would be an understatement, even Ev's description of how primitive the area was failed to dim my excitement.

A rough, narrow dirt road, surrounded by lush uncultivated greenery lead to a small padlocked fence thrown across the road. Past this and we were on LES land. Our first stop was to pick up a feline of unknown parentage, who wandered onto the land one day and took possession of the property as only a cat can. Cat, (well, what else would you call him?) gave me the once over and decided that I was acceptable....thus with Cat purring contentedly in my lap, we drove to the farmhouse.

I fell in love with the house at first sight. It is an ancient two story building, (with a wing recently added). Tilted at a crazy angle, it is a ramshackled, weathered, eccentric building with a rustic look that is charming....warped logs, falling timbers and all. Inside there is a stove, sink, refrigerator, some furnishings and dominating the front room, a huge pot-bellied stove. It might not be the most comforting place, but it is so delightful. The best thing of all....at least to a city gal like me....is the outhouse. The only thing missing is a crescent in the door. The house is surrounded by a tangled mass of trees and undergrowth with a liberal sprinkling of aromatic mint, which grows with a persistent abundance, giving the air a refreshing minty breath.

I took a few photographs, made a few sketches and continued on to the lab, located about a 100 yards from the house. With Cat leading the way, we took a circuitous route, so that Ev could show me the pond. He explained that when properly dammed, it was filled with clean water. Now it was polluted with an edge of white mold, (actually slime, but mold sounds so much nicer). Never-the-less, with the gnarled trees growing right down to the waters edge, it was a romantic picture.

We walked around a no-path path. The forest was alive with the movement of creatures....some like the Leopard Frog, I was quick enough to spot it before it went into the undergrowth....and yes Virginia, there is a Pileated Woodpecker!

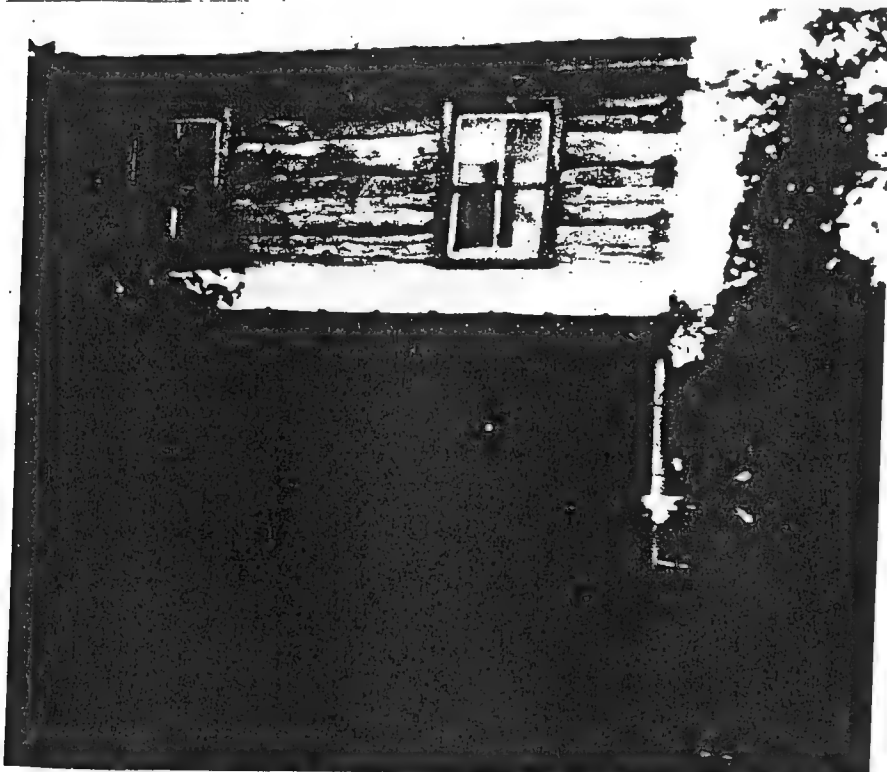
REFLECTIONS ON AN UNTAMED EDEN -continued

The lab is a deceptively simple building which stands out in a clearing overlooking the pond. One thing is apparent, both here and at the farmhouse, a tremendous amount of work has been done. Unhappily, because there are not enough volunteers the work is progressing slowly.

As with any organization, LES is perpetually short of money, and while funds are most necessary, important too is the active involvement of its membership. There is a constant call for volunteers...and my trip to the farm showed what could be done if enough members would give, not only their dollars, but their time as well. While there, I saw a new perspective. Civilization now seems to be at the point of annihilation..and so it must have appeared to sages of old...who in the past bemoaned the pettiness of man...often treachery and insincere. But each time civilization stumbled into another age, a little better, a bit more enlightened than the one before it. LES is a part of the new age coming. An age where people care more about people and respect individual human life. LES inculcates this with its interest in the preservation of man and the betterment of his surroundings.

I did not mean to proselytise...I merely wanted to draw a verbal picture of the farm and lab for those members who haven't had the opportunity to visit the area. I hope I have interested some enough to at least visit. I am sure that once there...once the impact of what could be done hits them...they will want to participate in obtaining the many goals LES would like to realize.

The following photographs really don't do justice to the farmhouse or the surrounding area...but it will give you a good idea of how much we have to work with, how much has been done...and how much has yet to be done.



This is the front of the farmhouse, or at least a portion of it. The rest stands further to the left than the photographer did.

That indistinguishable shape in the portico is 'Cat'...keeping watch over his property.

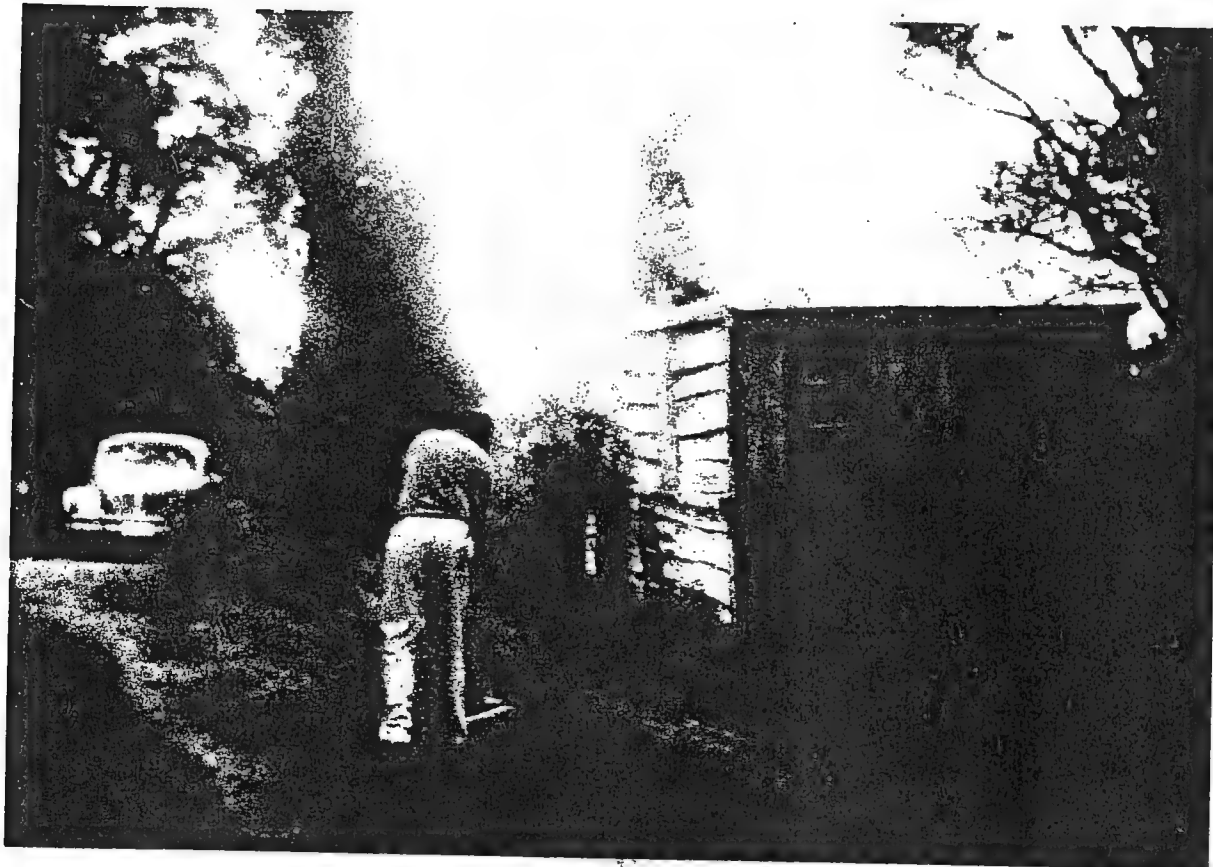
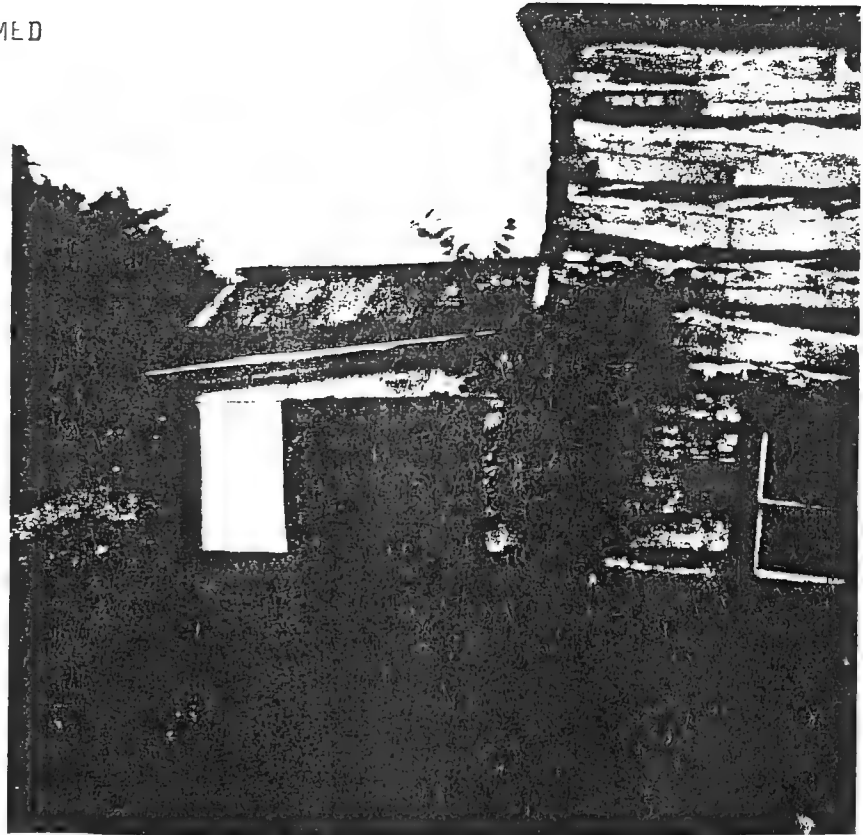
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REFLECTIONS ON AN UNTAMED
EDEN -continued

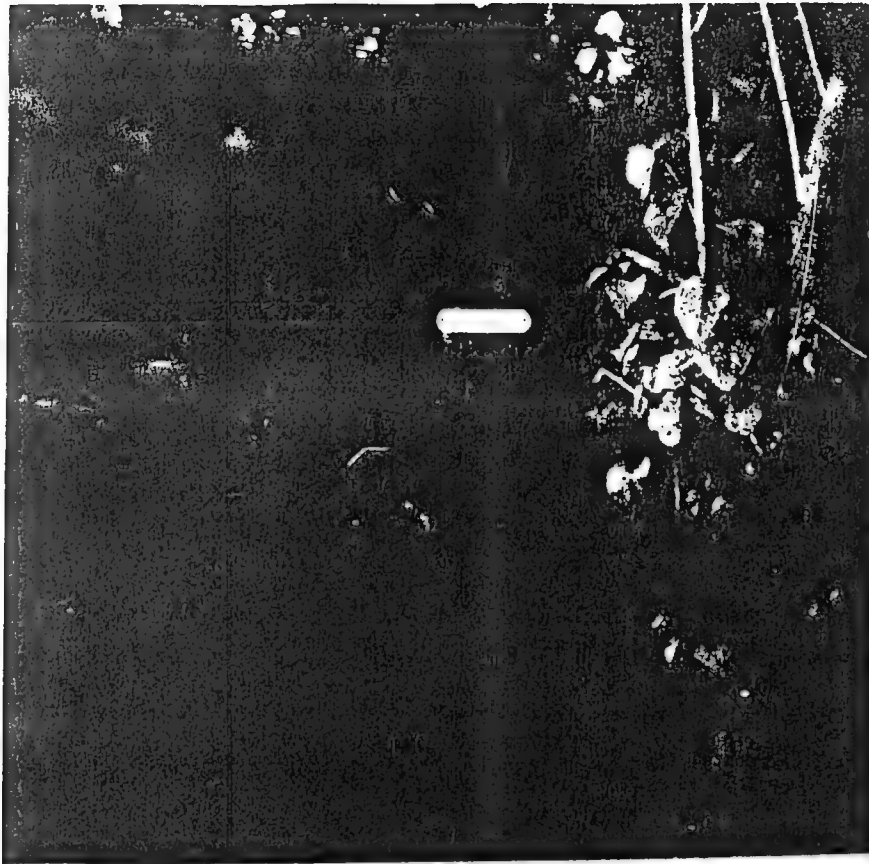
The sign on the
upper side of the
building is
indiscernible,
but it read:
Cumberland St.

A bit ,
pretentious?

(Editor's note:
To reduce cost
we have not used
screen negatives,
but hope some of
the ancient
flavor remains.)

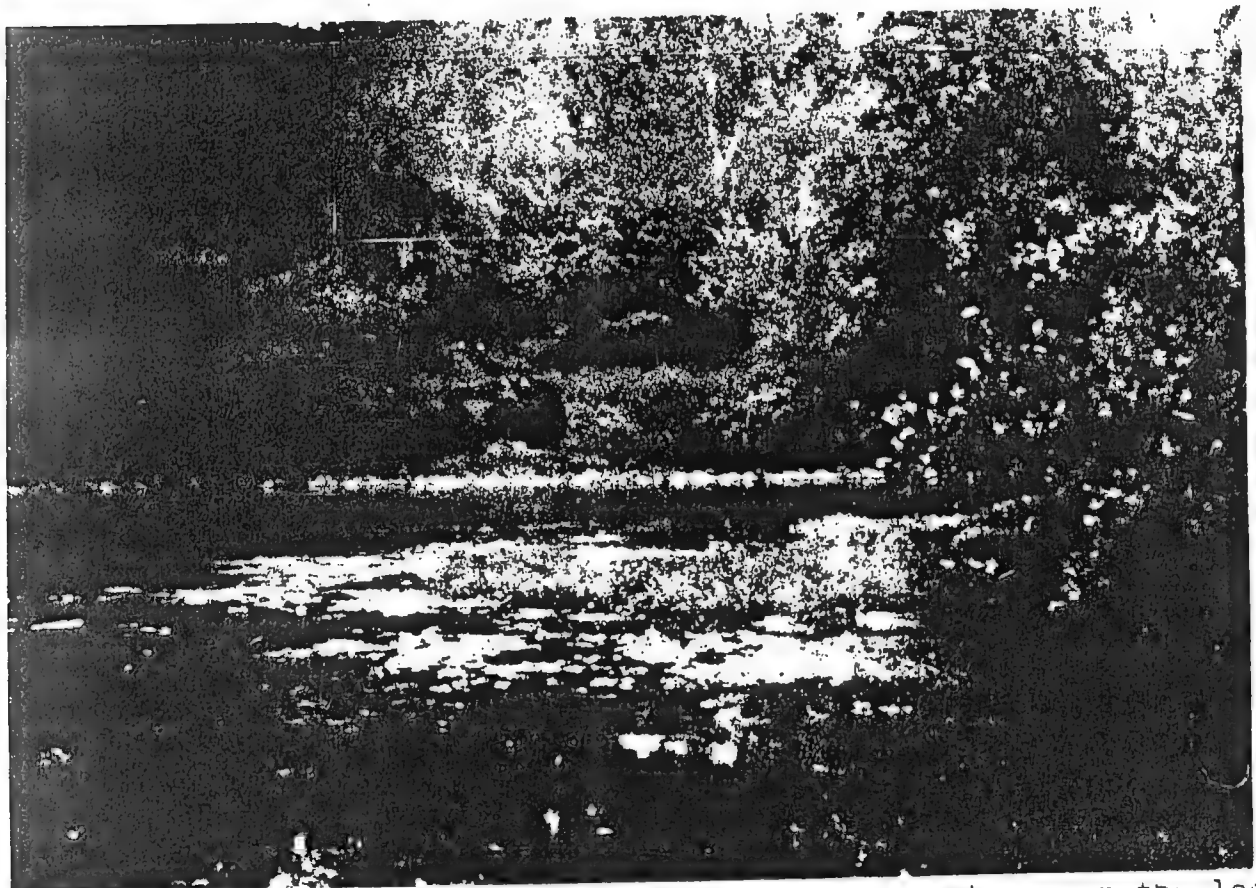


....Rear view of building and editor.

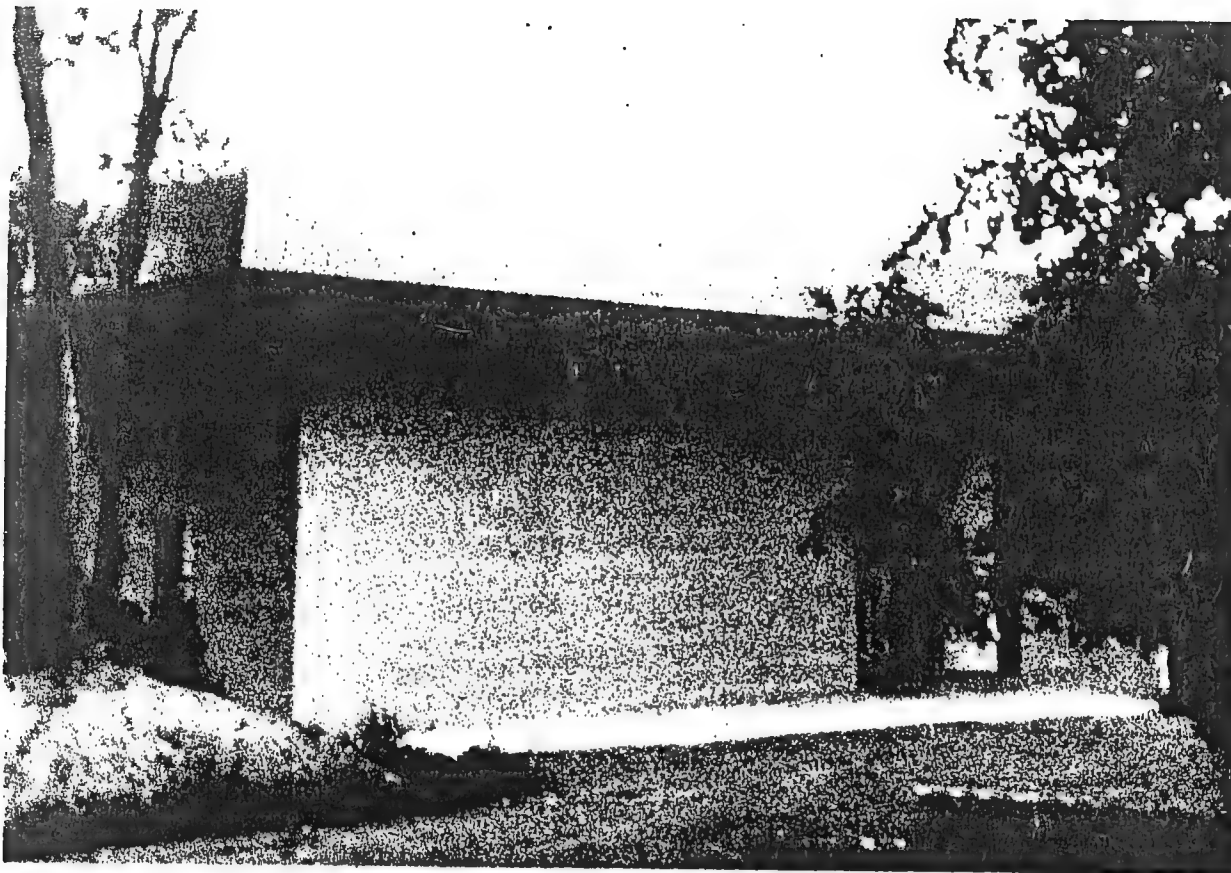


..To a city gal
like me this
outhouse was
delightful ...
all it needs is
a crescent
carved in the
door.

I loved it...
but would hate
to have to
rely on it
on a cold
winter night!



The pond has more than its share of algae at present, never-the-less
it is a scenic delight. When it is dammed correctly it will be clear.



The lab is a stark, simple building with the barest touch of purple color on the doors. Surrounded by trees and other native growth, the building stands sturdy in a clearing overlooking the pond.



NOTE TO OUR LES READERS ABOUT SOME OF THE WILD AND HERETICAL VIEWS OF SOME OF OUR CONTRIBUTORS TO THE NEWSLETTER

Some of our readers, and one of our proof readers, pointed out in alarm how our society could be completely misunderstood if a newcomer read a single issue. Let it be said immediately, again, that we let our authors, letter-writers, and members speak for themselves with almost no holds barred. This doesn't especially hold for this issue but for several controversial earlier issue and certainly a few of the issues to follow. We think it is more preferable to present honest representative thought than it is to mold our newsletter and society to some supposedly slick and efficacious image.

ACT NOW

NOTE ON OUR CONTINUING FUND DRIVE

Our fund drive cannot compare in the amount of funds brought in to our previous fund drive several years ago. To date a little over \$400 has been deposited with a very few contributing envelopes as yet unopened. Part of this may be the "management's" fault for not getting off a separate letter to each member instead of appealing through the newsletter. Our excuse was that we were so far behind with correspondence, the newsletters, not to mention the cost of extra printing involved. So, we will ask our members to bear with us while we extend our fund drive in time. Therefore, let us urge anyone who hasn't contributed, and who cares to contribute, to send us a check with one of the forms enclosed either in this or other newsletters or in one of the envelopes that is sometimes enclosed.

We thank those who did contribute. Their generosity will help us tide over a difficult but hopeful period.

SOMETHING ON THE PRESENT STATE OF AFFAIRS IN LES

It takes no keen observer to note that we have totally neglected our membership with respect to the late newsletters. However, we are able to report that we have had a great amount of local volunteer help, especially from young people, at the farm and lab and considerable additional help with the correspondence and newsletter. Our thanks go out to almost a dozen persons who drove through snow and sleet to help out at the farm and lab last Sunday. We won't mention all the names, but our thanks go to everyone who helped. Remodeling continued in the old farmhouse and one twenty ton jack was broken in the process of leveling up the house amongst other work completed.

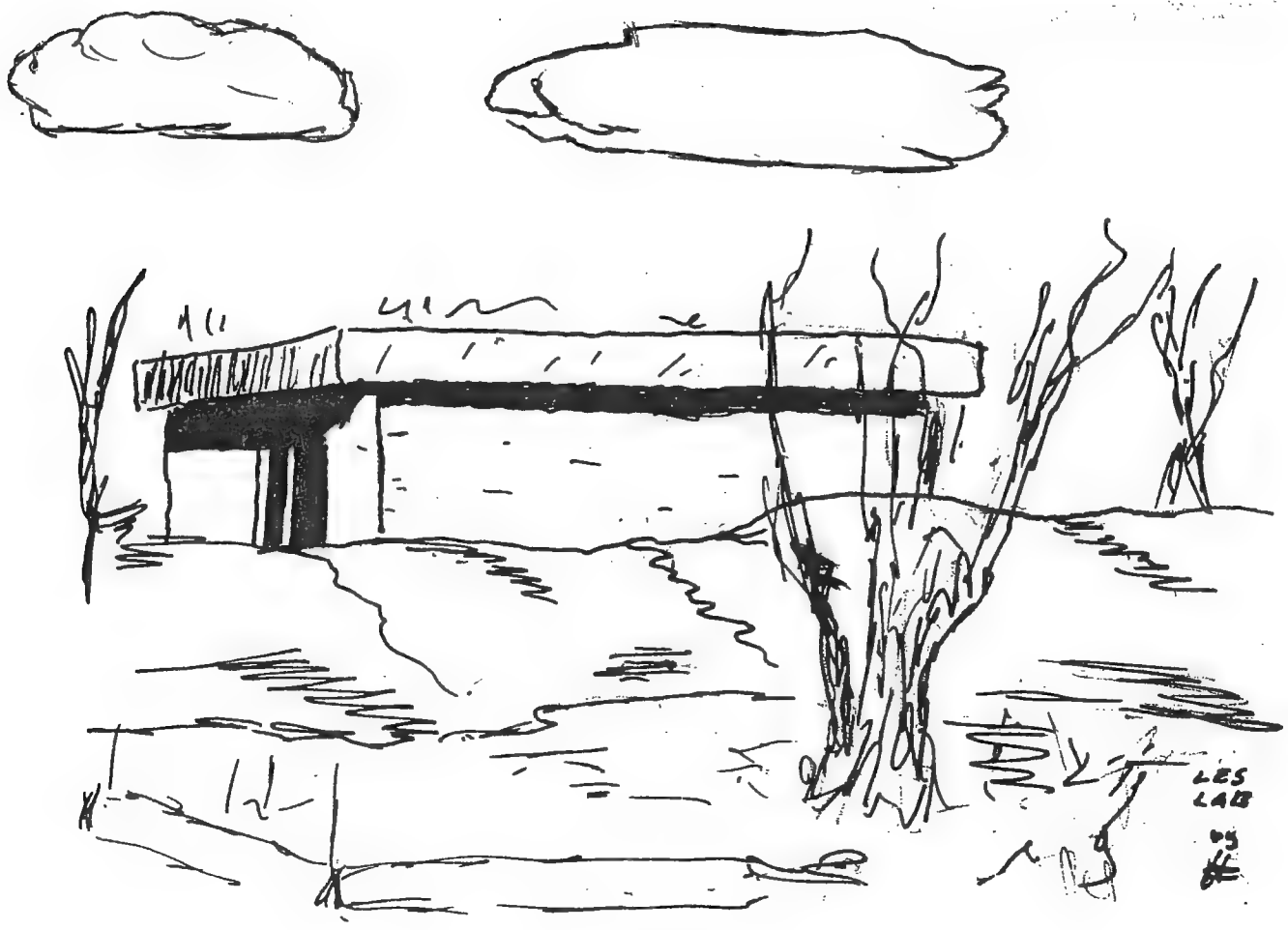
Though the situation is excellent with local volunteer help on the weekends, we are still in dire need of a VOLUNTEER EXECUTIVE DIRECTOR, or/& VOLUNTEER SECRETARY. We are unlikely to catch up with paperwork and newsletter until we do get more help locally in these departments. If members wish to help out they can help out enormously by locating an executive director or/& secretary who will volunteer their services in this area. (We would accept more distant help with mail, etc., but in most instances we would need a volunteer secretary to take care of that task from here.) The editor especially wishes to get these positions filled so he can begin a good long sailing vacation (with the additional excuse of spreading the idea and making further LES contacts by sailboat travel) sometime this coming summer. The current plan, or fantasy, is to maintain close contact by radio. --But, all that is futuristic. The first job is locating additional volunteer office help.

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Jerry Cullins
6 Morris Street
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"June" issue
(published late)



FREEZE - WAIT - REANIMATE

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LES volunteer works on the farm-house wall.

Inscription:

*"I have set before thee life and death,
the blessing and the curse;
therefore choose life, that thou mayest live,
thou and thy seed."*

Deuteronomy, Chapter 30.

CONTENTS:

THE ECONOMY OF BEING IMMORTAL

by Wes Walton

LES FUND DRIVE. VARIOUS OPINIONS

Contribution form

INFORMATION AND HELP
Coordinator's page



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THE ECONOMY OF BEING IMMORTAL

by Wes Walton

"...facilis descensus
Averno (coctes atque dies
patet atri ianua Ditis);
sed revocare gradum superas-
que evadere ad auras, hoc
opus, hic labor est."*
Vergil

How much does it cost the people of the United States to form one man? The answer can be computed in working years. To arrive at a working year, you divide the national income by the working population. the standard of a working year, will apply to any period or country you care to choose, regardless of currency. For example, if in France in 1957 the working year is 15 thousand million francs divided by 20 million people working, that equals around 750, 000 francs. To calculate a working year in the U.S.A., anyone may use his own brave figures.

Fortunately, the cost entailed in forming one man from conception to 18 years of age has already been worked out for us in figures which apply to any developed Western population. Actual rearing of the new man, before he can himself contribute to the economy, costs 4 to 5 working years. His education is a bargain, at only 12 to 13 working years. Thus we find that it costs, if we pick up the entire tab, around six working years to form another man.¹

Suppose the working year in the United States amounted to, say, \$5,000.00. At that rate, the cost of forming another member of our community would run around \$30,000.00. It may be cheaper, in order to avoid losing the investment, to make him ageless and immortal. At least, this is the way it looks from the conservative point of view.

Liberals, however, might propose training the present unemployed to manufacture cryogenic materials and capsules and whatever else is necessary to implement the plan. These people would form an elite working corps. Obsolete missile silos would be converted to hold a nation's dead. A winding descent into one of these Averni (Avernus I, Avernus II, etc.) would reveal the history of nation itself, asleep in the minds

of its people. While the silos are being filled, the economy is gradually restructured from a war and death economy to a soteriological one. Soteriology, the science of salvation, will be developed from the life sciences. It will also, however, have an equally important branch dealing with the science of fair distribution, and the salvation of minorities. Everybody, from some point of view, is in a minority.

Arms competition works by emulation. People want what they see displayed, they can't help it. If you flash a gun, they want a bigger one. It is also fueled by fear. This economy would be fueled by hope. There are few more powerful emotions. Perhaps it is even stronger than fear. Perhaps not. We would enjoin other nations to emulate us and see.

In the meantime, during de-escalation and reform, it would have to be agreed that worldwide political games, no matter how earnestly, or enthusiastically waged, would have to acknowledge the rights of the dead to political amnesty and to asylum. The nations may accept the idea of asylum for the dead, if they are caused to reflect with what ease, in the course of time, a rival political faction can come to power. The only way any faction whatsoever can be assured of asylum is to uphold it as a common principle. Also during this period the science of conflict resolution² would continue to be developed.

The soteriological economy would provide a non-Puritan way of life with enough elements of play to make it delightful. Jobs and roles could be rotated, but not forcibly. Those who find a satisfactory place in life could stick there, if that is what gives them happiness. Others might find meaning in continual change and renewal. Morality would not be relative. It would be absolute and easy to follow, because it would be based on reverence for life. What is life-destroying would be evil. If it is not injurious, it is not evil. Persuasion, not force, would be the guiding rule in relations with others. You would not persuade A, however, to compel B, unless B is injuring C. You could do your own thing, but not necessarily to somebody else. All work done would be synergistic. This economy would not be structured so that one man's profit can entail

another man's ruin. The water that Aquarius pours is the water of immortality.

This, of course, is merely the liberal view. What would the radicals demand? By the gods, they would set up booths demanding IMMORTALITY NOW! HUMANIZE TECHNOLOGY! Sir, are you prepared to freeze your body? STOP THE GHASTLY CARNAGE! Freeze thy enemy. Help stamp out death, PRESS BUTTON TO TURN OFF EVIL. Over the tomb and forward! WRECK YOUR LOCAL CHURCH! (IT NEEDS IT!) Group demands reparations from ministers for not coming through on their promises of immortality. What? 2,000 years of humiliating Christianity, and only one man immortal?

Mr. Jones, you ain't seen nothing yet! ³

¹ See Alfred Sauvy, Fertility and Survival (London: Chatto & Windus), 1961, pp. 94-95.

² For a statement of general theory on this subject see Kenneth E. Boulding, Conflict and Defense (New York: Harper and Row), 1963.

³ Unless you catch up on your back issues of the LES newsletter, Mr. Jones, and read several other publications, you are going to fall behind. Nor will Marshall McLuhan's Dewline service avail you! For a start, try Nathan Duhring's ment of Robert C.W. Ettinger, The Prospect of Immortality (New York: Doubleday), 1964.

* "...easy the descent to Avernus
(nights and days lie open the gates of dusky Pluto;
but-to retrace your steps and come out to
the breezes above,
this is the problem, this is the labor"

Vergil's Aeneid VI 126- 127

LES FUND DRIVE. VARIOUS OPINIONS.

No one knows with absolute certainty how to best raise funds and in what direction it is best to spend whatever funds are raised. Obviously we must try our best. There is general agreement that we appeal to our members and subscribers via special mailings and in the newsletter.

continued middle of next page

THE LIFE EXTENSION SOCIETY, a nonprofit, tax exempt society, needs your support --

- ☐ to purchase low temperature equipment for research and emergency storage.
- ☐ to establish an LES fund for outside cryobiological research.
- ☐ to improve the society and the newsletter, to increase membership.
- ☐ toward low temperature preservation of endangered species.
- ☐ other _____

I enclose my contribution of \$_____ to assist LES. (If you wish, check your preference above, or indicate other use.)

NAME _____

ADDRESS _____

CITY & STATE _____ zip _____

Please make your check payable to Life Extension Society, or to LES. Your contribution is tax deductible.

YOUR HELP IS GREATLY APPRECIATED. MANY THANKS!

LES FUND DRIVE. VARIOUS OPINIONS.-continued-

There is considerable difference of opinion on how to spend whatever funds are obtained. For example note the variety of opinions expressed in letters and articles in the last several newsletters.

Our last appeal was two or three years ago. One very generous person gave us a considerable loan, almost interest free, for land and a laboratory building for research and possible cryogenic storage. Nineteen acres of land has been purchased. The building has been erected and the grounds improved. All of this has been paid for. There are no mortgages or liens, except the loan outstanding to one of our own members. Our land and buildings are adequate but we are in need of the crucial thing: cryogenic equipment which can be used for both research and storage.

Our efforts the last few years carried out the suggestions of individuals and a group that we obtain land buildings and equipment in the event of an emergency need and for research. As stated we have everything except adequate equipment. Thus some of us would appreciate some funds for equipment which would cover most any emergency with ease, and for some research, rather than

LES FUND DRIVE --

the shoestring basis upon which our equipment now exists.

Most persons seem to agree that some low temperature storage equipment is necessary, though how much should be spent in this direction and what priority it should have are now matters of disagreement. (Note the various appeals, letters, and articles on this.) Some wish to raise funds for more professional fund raising. Others wish funds for research outside of LES. Some wish funds for research to be done by LES workers. Others would put a priority on increasing membership, improving the newsletter, and increasing the organizational efficiency of the society. Others would stress aging control research and storage of tissue specimens of endangered species. There are so many suggestions of what LES should do that it is difficult to list them all.

A common sense solution has been to let each contributor designate the area he or she prefers. If you contribute, and we urge you to do so, please help us by indicating the direction you prefer, such as listed below, or mention other suggestions. You may receive an appeal separate from the newsletter. However, if you haven't received the separate appeal, or if you haven't contributed already, may we induce you to consider the form on the page immediately preceding this one.

INFORMATION AND HELP. If anyone is dying who wishes to be preserved via cryogenic (low temperature) storage, information and help in some instances, may be obtained by phoning LES or some of the individuals below. If one number does not answer, try another. Please do not expect precision organization or categorical answers. Often the help can be nothing more than information or a referral to someone else. A number of coordinators are new. We don't know every coordinator personally, but we hope we made good choices and we thank these people for extending their help. The LES coordinator's work is voluntary and everyone simply does the best he or she can. No coordinator is to receive any salaries, monies, or personal gain because of his position in LES. All are LES coordinators or LES officers below except Bob Ettinger, Dr. Roy, and Dr. Able(213)OR7-3153, all of whom have made themselves available for the best of advice in freezing.

LES Washington	(202)723-5397	Ev Cooper, or try	(301)277-0246
Albany, N.Y.	(518)HEB-1228	Richard Mende	eves mostly
Ann Arbor, Mich.	(313)761-4916	Marilyn Rubel	
Antwerp, Belgium	(814) -30-157	Victor Peeters, or	014-30-336
Baltimore Md.	(301)338-1191	Ted Brown	
Baltimore Md.	(301)467-9147	Wesley Walton	
Berkeley Calif.	(415)525-7114	Art Quaife	
Bishops St., Eng.	3540	Geoffrey Dennis	
Boston Mass.	(617)254-6521	Ed Randall	
Bristol, Tenn.	(915)968-2327	Don Speer -after 4pm	
Broomall, Penn.	(215)EL6-0903	C. Leonard Cella	
Camp Hill, Penn.	(717)737-1271	Doug Jamnick & Tom Longshaw	leave message
Caracas, Venez.		Kurt Bantelmann	
Castleton, Vt.	(802)775-0520	Prof. L.N. Jensen	
Catania, Sicily	22. 12. 82	Prof. & Dott. Giuseppe Valenti (M.D.)	
Chattanooga, Tenn.	(615)875-6507	S.A. Pawlowski	
Chicago, Ill.	(312)276-9496	Joseph Jancsovcis, after 2pm	
Chicago, Ill.	(312)726-3285	Don De Grazia	
Cleveland, Ohio	(216)662-7115	Jan Novak	
Columbus, Ohio	(614)888-8855	Vaughn T. Owens	
Concord, N.C.	(704)782-7800	Jerry Cullins after 4pm	
Detroit, Mich.	(313)543-2619	Bob Ettinger, also LI6-4012	
Florence, Ky.	(606)371-5817	Leroy Catron, after 6pm	
Georgetown, Ky.	(502)863-1576	Michael Greene	

INFORMATION AND HELP CONTINUED

Gettysburg, Penn.	(717)ED4-49777	Russ Norgan
Hagerstown, Md.	(301)RE9-1304	Bill Physioc, evenings
Hartford, Ala.	(205)588-3102	Michael Griffin, also 588-3101
Hermosa Beach, Calif.	(213)FR2-8075	Rosario Coco
High Point, N.C.	(919)882-3744	Albert Campbell
Houston, Texas	(713)H08-1559	Mrs. R.C. Philips
Hull, England	48114	Alan Worsley
Hyattsville, Md.	(301)422-9179	Albert P. Lefebvre
Jacksonville, Fla.	(904)384-4806	Seena Acklen
Johannesburg, S.A.	253-235	Robert Martin
Kapong, Malaysia		Ho Sai-Yuen
London (Stevenage)	2444	George Knowles
Lorient, France	64.29.81	Marcel de Lacroix-Herpin, Dr. (M.D.)
Los Angeles	(213)MA8-8737	Rosario Coco
Lake Zurich, ILL.	(312)438-6244	Ronald Schupp
Man, Ivory Coast		Djoman Louis
Manchester, G.B.		John Sutcliff
Mansfield, Ohio	(614)524-7577	Cervinski after 6pm
Mexico City, Mexico	23-97-55	Henry Donnat, or try 14-55-08
Michigan City, Ind.	(219)872-3835	David Riggs
Minneapolis, Minn.	(612)522-9184	Richard Koplow
Montreal, Can.	(514)484-1591	Jim Clancy
Moscow, Idaho	(208)882-3409?	Patricia Gossett
Mt. Rainier, Md.	(301)277-0246	Bill Albaugh
Nagpur, India		S.S. Zadgaonkar
Nancy, France	53.50.30	Dr. Emile Leclerc (M.D.)
New York City	(212)663-2562	Louis Sicilia, 70 W. 108th
Oberlin, Ohio	(614)775-2261	Royce & Sue Dendler
Oak Forest, Ill.	? (312)687-1930	Fred Behrens
Opa Locka, (Miami)	(305)681-3941	David Gridley, after 5pm leave message
Olympia, Wash.	(206)943-8918	Virginia Tharp
Ottawa, Can.	(613)733-2255	Jane Ruptash
Paris	INV 58.22	Francoise Coulon
Pittsburgh, Penn.	(412)563-4638	Mrs. Margaret Wyatt
Pittsburg, Kan.	(316)AD1-8086	David Lemes
Plainview, LongIs., N.Y.	(212)WE5-8126	Howard Dranoff D.C.
Rochester	(716)244-4469	Neil Shapiro, or,
	(716)225-7936	R.L. Green
Rabwah, West Pakistan	36	Munawar Ahmad Anees
San Jose	(408)294-2866	James Lewis
South Bend, Ind.	see tel.book	Eli Spicer
St. Petersburg	(813)361-1691	Vicki Gerard
St. Pleasat, Bowie Md.	(301)925-7910	David Jacobson
Swansea, G.B.	50989	Gerald Evans
Tacoma, Wash.	(206)383-5495	Franklyn McDaniel
Toulon, France	92.70.15	Dr. Guillaume Roy (M.D.)
Trenton, N.J.	(609)393-2643	Gerald Donsky
Tucson, Ariz.	(602)793-7045	Jim Franklin
Tulsa, Okla.		Steve Reiner
Tunkhannock, Pa.	(717)836-5761	Thomas DeWitt
Wilbraham, Mass.	(413)596-8872	Mike Jacobs, 616-277-6325 holidays
Wolfville, N.Scotia	(902)542-9945	Barry Mason, evenings

LIFE EXTENSION SOCIETY, 2011 "N" Street N.W., Washington, D.C., 20036

-This is our mailing address above. We are not large enough to have offices as yet.

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The artist, Ernest Fiore's, impression of the new LES building.

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-published late-

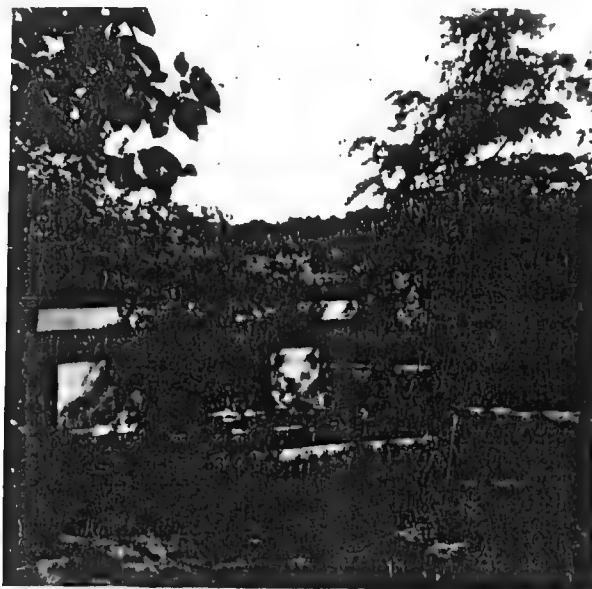


FREEZE - WAIT - REANIMATE

LIFE EXTENSION SOCIETY

2011 "N" STREET N.W.

WASHINGTON, D. C. 20036



LES lab and surroundings in
late summer.

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THE PATHOS OF DYING.

-copyright 1970-

V(59)2

LETTERS and ARTICLES and MISC.

Dear Editor,

Remember in the Rise and Fall of the Third Reich how the Jews thought they were going to take a shower but instead they were forced into the gas chambers!

Death is always like that- the enemy gets us even as it got Christ because he was helping people too much. Here we are only under forty-eight and perhaps ninety-six laws- but after death we are even less free or else Christ and all those who died would be able to contact and help us to their greater freedom. They, however, are less free than we are.

Therefore, our primary aim should be to stay here as long as we can and then try for the greater freedom we have here by being frozen and helping for reanimation. With time other methods of bringing back dead will be found just as death is sometimes or rather everytime someone revived death is cheated.

Evidence is coming in more and more that L.E.S. is on the right track.

-from an LES member.

HOW AND WHEN ARE YOU MOST LIKELY TO DIE? HOW BEST CAN
YOU AVOID DEATH?

Death may come to most of us before we ever dream it can. John Platt, writing in the 28 November 1969 Science magazine, hypothesizes that because of multiple crises in U.S. society, "We may have even less than a 50-50 chance of living until 1980."

Platt, a research biophysicist and administrator at the Univ. of Michigan, estimates the U.S. society will soon have a storm of crisis problems such as nuclear escalation, participatory crises, racial crises, crises of administrative legitimacy, and famine. (This is not to mention chemical and biological warfare which might come and make nuclear death look like a Fourth of July accident in comparison to The Plague.) --In any event, the main function of bringing all this death gloom to print is to warn our readers what possible worst future may await them.

What can be done? Platt gives some of the usual commonsense answers: "nothing less than the application of the full intelligence of our society," and "the humane and constructive efforts of everyone" are needed. Scientific task forces are to go to work immediately for the very survival of humanity or a large part of humanity.

Not mentioned in the article, because it discusses societies in general, is that if individuals estimate that their particular areas are about to go up in nuclear fire storm or be wiped out in bacterial plagues, it seems only common sense to get out of that

-continued on page 7

LETTERS & ARTICLESCRYONICS VERSUS EVOLUTION

Note : The author of the dissertation below is a good friend of mine, and in the course of discussion, we happened upon the subject of cryonics. Myself, of course, being pro cryonics; and he was anti cryonics. But he made several interesting points that, for the sake of objectivity and a valid argumentation of cryonics, should be presented. So, I have remembered his main points and I am offering them to you. The purpose of this is to come up with an answer for my friend which I am sure many of you can supply. One warning though, he is very logical and is capable of tearing apart an invalid argument.

—Vaughn T. Owens, Columbus,
Ohio

My friend is of the firm belief that cryogenical interment is fraudulent and appeals to those who are gullible. His argument is as follows:

1. What happens if a cure for the disease that the frozen patient died from isn't found by the time his money runs out? He says that it is an awfully convenient money opportunity for the people who have accepted the responsibility.
2. Suppose the patients money is unlimited, and, he should finally be cured far into the future. He says that this person will be so far behind that it will take most of his life to adjust, that is, providing that he is of the same intelligence level of the people of that time.
3. Also, that it will hinder the development of evolution if we insist on presenting ourselves upon our descendants. He says that cryonics is the height of fear of death and selfishness.
4. Finally, he says that the rejuvenated person will never adjust to the way of life of the time he will them be living.

We went on for hours about this and he still remained obstinate to his point; so, I told him that I would have it put in FWR and open the discussion to the many advocates of cryonics. Remember, he will not accept anything along the lines of "not enough technical advances." Your comments are not only requested, but demanded!



write

THE PATHOS OF DYING

In an issue of Time Magazine on October 10, there was an article on the agony and frustration of awaiting death. First of all, I will give a brief summary of the Time article.

It seems that a group of students have begun to study death. What they do is ask a terminal patient to talk to them and hopefully reveal the trauma of knowing your life is soon to cease. They call this observation, if you will, insight into the personality of the dying. They have made classifications of each stage of temperament which the patient goes through. Beginning with the denial of imminent death ranging through the final acceptance.

They also find that the patient is very willing to express his feelings to these students. He is very lonely and wishes to chat with anyone so he won't have to stand and look out of windows and dwell on his fate.

One of foremost experts on the "subject" is Psychiatrist Elisabeth Kübler-Ross who has written a book on death. She has many views of what the patient goes through and teaches the living relation or friends about the dying one and how to react to him.

I find this so morbid that it makes me physically ill. To stand and watch people studying dying people and hear of people writing books about it, is beyond belief.

These supposedly educated people never even consider cryonics as a possible solution. Instead, they sit and dwell upon the patient's feelings as he slips into oblivion. Even if cryonics never succeeds, the patient would die knowing that he has hope, a chance of revival. If cryonics accomplishes nothing else, isn't this far better than letting the patient fear his doom.

He would not give up all hope when his time comes, he would probably look forward to dying knowing there was a chance that he would be cured of his fatal disease. This makes things so much nicer, for the patient and for the survivors.

And, when the patient finally is near death, he might say, "See you later" instead of the grim "goodbye".

Editor's note:

Thank's to Vaughn Owens who has helped edit and write this newsletter.

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LETTERS and ARTICLES and MISC.

Dear Editor,

Franklin Cocks (at least in his letter in No. 56 FWR) is right

Our most urgent problem is membership. As it stands, nobody knows LES exists.

I propose that we place small advertisements in magazines with national distribution. I recommend Scientific American primarily and also various journals of medicine, physiology, physics, and chemistry.

I am positive that we would enlist large numbers of enthusiastic supporters from the ranks of those who read the science fiction magazines and pseudo-science literature (i.e. Popular Science, Science Digest, etc.).

Only from a very large following can we generate the funds we need to make our dream into a reality.

LES Citadels in every community. A new church based upon science, objective thought, and reality. A church to replace the old ones that rely on indoctrination, propaganda, mythology, lies, and stupidity. A religion with a prime tenet of Question, not blind belief. A force powerful enough to counteract mankind's collective stupidity.

Of course this is not "our" dream, but merely my own. I have this crazy idea that we have an opportunity to give the future something worthwhile in addition to our lives.

"Our" dream is Immortality. To that end LES has attempted to begin a snowballing effect--but with no snowball to begin with! At the risk of becoming poetical, let me point out that the mountainside laden with snow is still waiting for us.

True, cryonics has received coverage in many periodicals. But most of those articles were obviously written by and for scientific illiterates for the sole purpose of ridiculing and discrediting the idea. There have been exceptions. Publicity wise we have barely broken even.

Perhaps a single bold stroke could trigger the awaiting chain reaction of exponentially increasing return. A successful reanimation is and will remain beyond our capabilities for years.

I propose that we conserve our money until we have enough to buy a full page advertisement in Scientific American.

A whole page could

- 1) contain a detailed explanation of cryonics
- 2) impress the journal's readers with more scientists and wealthy intellectuals who do not want to die
- 4) maybe start the chain reaction we have so long awaited.
- 5) cost a small fortune
- 6) result in the return of a huge fortune.

We can be sure that such a snowball will roll quickly down the best slope of the aforementioned mountain.

The new LES building endows the society with a sense of communicable integrity. If only the newsletters were printed on slick paper with more professional type and format, then the Life Extension Society would be impressive in fact as well as theory.

The image we will present to the world is of necessity vital to any membership drive LES sponsors. Let us postpone the purchase of "low temperature equipment for research and emergency member need" and the establishment of "an LES fund for outside cryobiological research." These enormous projects can be better dealt with by a larger--and consequently richer--LES of the post membership drive future.

Sincerely,

David Lemes
LES Coordinator

Editor's note: --From this side of the society, the side concerned with taking care of correspondence, membership, office work, newsletter, etc., our problem is that we cannot keep up with the office work as is. One of the reasons we stopped advertising is that we couldn't keep up with the increases in mail & membership. Then too, was our purpose just to have a big society or a society that did something in the way of having a freezing & storage center plus some research? What do we do if some member needs to be stored at the LES place? Of course dry ice storage will do for the short term, but it would help researchwise plus preparation for long term storage if at least one larger liquid nitrogen container were available. Containers are not expensive by comparison with supporting outside research. Especially this is a factor when our fund drive has brought in less than five hundred dollars to date. On this editor's note the main point is not to put down the fine suggestions made by David Lemes above but to give balance by listing the problems associated with building the society before obtaining a volunteer executive director.

-continued from page 2.

area. --Like some Jews left Germany in the Thirties in the hope that life could be meaningful and safe other places. Thus it seems common sense in turn to anticipate any holocausts to the best of your ability and escape the dangerous environment by plane, auto, boat, etc. This is, if you wish to maintain your best chance of preserving life.

J.R.Platt and most of the rest of us are basically optimists who think people do have some control of our destiny. But, occasionally it pays to prepare for the worst even if we hope the best comes.

The "freezing (of) bodies" is mentioned within a chart or table accompanying Platt's article. This should give freezing advocates optimism even if the freezing of bodies is brought in either as an estimate of the future or in a less than enthusiastic manner. He lists: mind control, heart transplants, definition of death, sperm banks, freezing bodies, and unemployment from automation as "exaggerated dangers and hopes." (page 1118) He adds that these exaggerated problems "are being talked about or worked on out of all proportion to their true importance."

It seems rather easy to see Platt's point of view and feeling that IN COMPARISON to the danger of annihilation within fifty years, the "man in space" and "most basic science" and the above are overstudied.

Many replies might be made to Platt's article with respect to the freezing aspect. (We hope our readers will study the article and send us their thoughts.) Here are a few thoughts and opinions. Scientists have made a laudable attempt to warn us about the real possibility of "total annihilation". The more likely probability is that untold millions will die from horrendous disasters before limits are placed on military sovereignty, but it will not be total annihilation. It is true people should do what they can to prevent the annihilation of themselves and of the millions or billions of others. But everyone cannot do that, and even if they did work full time at that, that effort would not preclude freezing. Most people are not too sure if they have any control over the prevention of nuclear-biological-chemical holocausts. But there are tangible preparations to be made for being frozen in the event of death. With work, cooperation, and willingness, preparations for freezing are probably not beyond the possibilities of any person on this planet. And, if the freeze-wait-reanimate process is anything, it is a fight against total permanent annihilation. It is a method, a suggestion, a hypothesis, and an alternative that should be tried even while combatting other dangers.

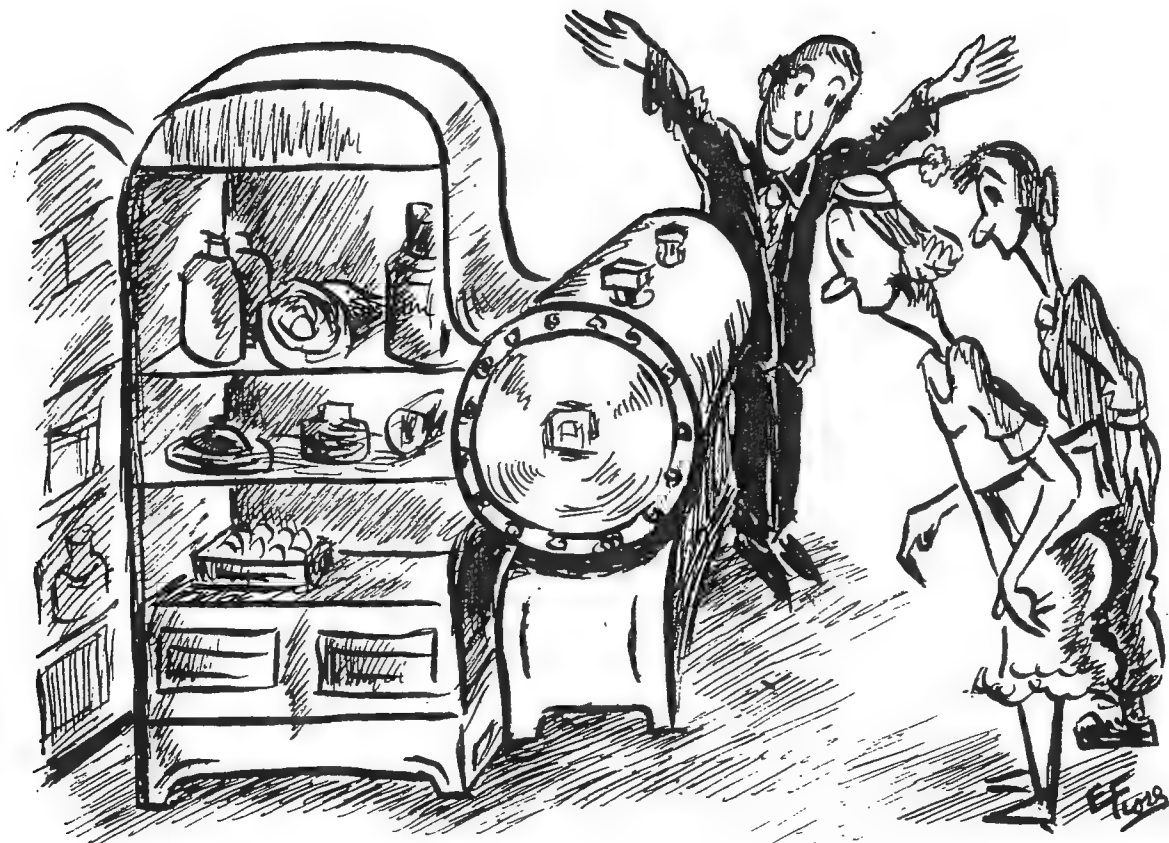
LIFE EXTENSION SOCIETY GET-TOGETHER IN THE LOS ANGELES AREA EVERY THIRD SUNDAY AFTERNOON

There will be an "Open House" to get acquainted and for discussion at the home of Hermosa Beach, California Coordinator, Rosario Coco (834 5th Street, Hermosa Beach, Calif., one block off Pacific Coast Highway), every third Sunday of the month from 3:00 P.M. to late evening. Please try to attend. Everyone is welcome.

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#59

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WASHINGTON, D. C. 20036



"After their reanimation was successful
they just remodelled."

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***** AN ESSAY ON THE EXPANSION OF L.E.S. *****

By John Sutcliffe

Direction and Intention.

Of all the rivers that flow on Bormans' good earth the one of human experience is the most irreversible. Its currents develop new innovation that through a thousand mutated causes redefine the nature that we regard ourselves and our affairs. The strength of our institutions and consequently their adaptability to the needs of individual expression is a statement and measure of their evolution.

The light of the LES beacon in its near decade of existence has been a glimpse of tomorrow, the LSD of mind expansion in the battle with a backward innocent world. A world that tries for absolution of its ignorance with blood and fire. It is an evolution that in its final analysis is a war of control of himself for his future, like a halfblind man blowing his foot off in the half light of intelligence with a science and technology he barely cares to fully understand in implication, and kills in his fear those who offer humanity a hope for a little struggle or a light to the way ahead. There is however one true absolution that man has, that the authority of his world try to denigh him in their greater ignorance and pretence of intelligence, he can experience and learn to modulate future actions.

The potential of our ideas is progressively seeping through the cortex of a learning world, what we have to offer is a great and evolving truth but our responsibility is overpowering, a responsibility we all share by our many objectives have been obtained we must now review the progress made and apply our experience to the next decade.

Further Comments on L.E.S. Organization.

Science has made rapid evolution since Robert Ettinger's heroic work "Prospect of Immortality" and many formally isolated fields of endeavour have now merged at the edges to enhance each other or found completely new sciences and technologies; (medical component engineering of the human system being a prime example) this process of scientific recombination will continue in the decade just ahead. It is the assemblance of these structures that can quicken the results of research and give new perspective to the data obtained as a relative component to a three dimensional structure of results and also to future action. Such an assembly would place each action of research in perspective to the next to quantitatively analyse the value of the whole system. Future action would be increasingly selective and decisions taken on a broader base of knowledge and experience.

To match this rapidly changing series of events will require an equal adaptive structure within LES itself, speed is not, however, of the essence. It is a matter of selecting the correct probabilities in advance of the situation and choosing the appropriate action that has as high a degree of efficiency as possible. This was the philosophy behind my suggestions published in F.W.R. Vol. 4, No. 52. It is essential that we organize our efforts within an adaptive programme within our resources to advance our ambition and broaden its parameters, our action

would apparently be contradictory by maintaining a central organization and yet to deversify or deligate much of the administrative function to the periphery of work in the field, but both would compliment the other and strengthen the unity of the organization. If carried through it would be an organization that many international political organizations would envy.

The following is an extension of my previous suggestions. The establishment of the L.E.S. laboratory now confronts us with two new problems, information to correlate research and the nature of the research program itself. Initially a general services committee should be established, comprising the societies president, the treasurer, and two members randomly selected from those willing to serve. As a committee they would select the head of research and on his advice and that of his team would allocate funds to their work.

The nature of their program would depend on the financial and technical expertise available, consequently there are two variables that will govern our efforts. As the financial support grows the program can be enlarged to cover provisional studies of the present "state of the art", and what can be achieved with existant funds and brain power, personal and organization; extending the study to what can be achieved over increasingly protracted evolution. Our ambition will only be realized as the integrated consequence of cryogenics, advanced surgery and biological control of the ageing process, not as the result of research in one paticular area of the whole.

As we gain ground with the scientific world, particularly in the universities, many research workers would take an active part on our research projects either within their own research facilities or at L.E.S., With certain workers acting as direct advisors to the proposed committee. The outcome of these efforts could well be a research grant from a university that would in turn act as a stepping stone to the scientific communities direct participation with the society in a joint program, and conferences of the whole life extension movement; consequently we cannot confine our research to cryogenics. Perhaps the main reason why the scientific community has been so reluctant to actively cooperate is the press instilled feeling that freezing is our only goal and to charge a high price for the service to fleece the public. This has been my experience from various news media in my area.

The general services committee should meet both privately and in front of the membership at the regular L.E.S. Washington meeting in a two way communication of ideas and comment. Full coverage of these mettings should occupy more F.W.R. space than at present to inform the general membership. I personly would not like to see L.E.S. become a ladies knitting circle or a mutual admiration society; our topic is controversial so must be our discussion. The decisions to be made cannot be left to slide onto the overworked shoulders of the societies administration we must all participate, otherwise our ambition has no meaning.

V(60)4

Any research program is as efficient as the width of its base of information upon which is constructed and from which it can function to define its goals. It would be advantageous to create a library of photo printed extracts from scientific magazines, journals and periodicals that could be cross indexed and filed for future use. In Britain it is possible to purchase a cheap hand operated photo printer for sixteen pounds perhaps a future purchase for the society. There must be many technological and general scientific publications in every country not necessarily in English that a local member normally reads containing articles that would be of interest to the research program. The originals could be easily photo copied and dispatched to a central library at the L.E.S. laboratory.

In conjunction with the photo copied abstracts the library could contain various contributed volumes or purchased by the committee. Eventually the library could also house film and audio or even video tape records to back up the research effort.

The library proposal would be the seed to a two way information system internationally based for its acquisition and distribution between scientists, other life extension societies, and even government departments, that in feedback would assist our own research program. The library could also become responsible for F.W.R. and the publishing of a yearly report of the societies activities. If this proposal is successful L.E.S. (publishing) Inc. could well be reality in the mid 1970's producing a whole range of publications for the whole life extension movement.

To borrow an idea, I would like to endorse Mr. J. Coleman Kitchen Jr's suggestion for a precryogenic care center, his proposal was, however, limited to the dangerous ground of storage only, such a center has the possibility of being much more. It could be a rest center prior to hospitalisation for advanced surgery for L.E.S. or other groups, as a rehabilitation and convalescent unit for postoperative or reanimation, employed still later as a center for cellular rejuvenation, but in the near future it could become a conference center for other cryonics societies at a lower rate than the regular hotels. May I further suggest a name for both the existant laboratory and the prospective center, The Ettinger Life Extension Center. The extension to the present building will be essential by the end of the seventies with decisions and discussions beginning immediately. If space is available in the older building which I believe stands on the property a temporary conversion could be arranged to cover present and short term fixture requirements.

Time for Expansion

Our expansion depends on communication and the one and only means available to us is F.W.R. It is our strength and if neglected, our weakness, for our society depends on a cross chat and interplay of intellects and ideas that can only be communicated by this media.

The general services committee could add to its function to the clearing house of ideas to improve L.E.S. The proposals could be submitted to the committee who would add their deliberations to either reject the notion or apply a priority to it for future consideration depending on its immediacy. The committee should be free to make its own decision but subject in the final analysis to the approval of the membership in the action to be undertaken.

We live in an era of revolution and we in particular are near the center of its biggest instruments of change, this is the first age that man can see his own subjective little world as a lonely blue sphere at the edge of a remote galaxy, and in doing so consider it as a single concept. It is strangely apt at this moment in time when we are increasingly forced to acknowledge the bitter truth that we are the products of a relative organism of cells, the evolved descendant and successor to a million generation of a hundred thousand life forms. Reality is never humiliating, we have lost a mystery but we have gained the evolving truth of reality. With it we can create freedom and above all responsibility for the decisions we have made and will have to make, demand our attentive involvement in this pursuance of and end that is the birth of man in true intelligence. In this battle we all have a talent to offer, a point of view to give that can and will evolve our intellect to grasp the enormity of our proposition. We cannot isolate ourselves to the sidelines of science and world affairs for some news editor to use us as a comedy filler on a bad news day. Our performance determines the success of our ambitions and endeavours and it is not sufficient to turn ones back on those with a sneer. We must go on giving information to scientist who will not listen, apathetic intellectuals who want to die before they reach thirty, a public that gapes at the spectacle and who reads with bated breath the last dying moments of a heart donar. Above all we must be able to answer the questions of doubters intelligent enough to see the possibilities not to be amused by their doubt or to dismiss them out of hand.

Our concept is freedom, the ultimate freedom that would liberate all men mentally and physically from the limitations of contemporary man, we must bare in mind as we approach the next decade. I hope that by the end of it, the effort will then not be question of how to gain general interest but how best to apply and distribute the decades acquired data to infrom man that the new world has come one step nearer. This will be our task and responsibility to bridge the credibility gap with a revolutionary truth.

Discussion

Since I wrote the above, Mr. Richard Radford has made some interesting comments on the role and future of cryogenics. I feel Mr. Radford's rejection of government blinds him to the fact that government is more

than a word, it is a functional process of minds, only when one fails to resist is democracy turned into a willing slavery. It is not true that governments of the technocrat nations have only produced mechanisms of destruction, computers, medicine, and man's greatest achievement, Apollo II, are proof of positive thinking and action, the very structure of N.A.S.A., its management and it's ability to turn swords of missile mass destruction into active research tools of man, these are the positives of government action. True twentieth century government is still with the ancient Greeks, and no major political philosophy has matured in nearly forty years but science has the answer if we chose to apply it

It is at this point errors in judgement could occur where action could precede our intrinsic value of what at this time the bulk of society rejects -the individual-. It brings to mind the words of Karl H. Pribram "...The suggestion was made that the affect associated with the ethical, preparatory type of reaction is as a rule, pessimistic, whereas esthetic participation begets optimism...This suggestion was based on current clinical experience and attributed to the fact that the social outcome of participation was, on the basis of experience, appraised by an organism as potentially successful in establishing or reestablishing control, whereas preparatory manoeuvres could on the basis of experience be expected to pose difficulties..."

Our knowledge is slight to the massive and relentless surge of ignorance that through many voices seeks to subvert the intellect, but intelligence is an amplifier to our inherent weakness. Our strength lies in our adaptive ability to see the country either side of the railway lines that conformist society puts to frame its concept of reality. It is our responsibility to develop an intrinsic culture expressive of it's own priorities to develop the philosophy for an immoral society and this is an even bigger problem and challenge than the physical accomplishment of immortality itself.

Karl H. Pribram quote;

Originally published by Holt, Rinehart and Winston 1968 from "Toward a Neuropsychological Theory Of Person" pp 150-60 of "The Study Of Personality: An Interdisciplinary Approach." Copyright, Holt, Rinehart and Winston, Inc.

THIRD MINUTE

From Ma Ma, Da Da, Ungh
to

When in the course of human events;

From grubbing rotten logs

to

Ten second electronic succulence;

From left foot, right foot, left and right

to

Stratospheric sun light splitters.

Smouldering twig to smoked Hiroshima,

Big chief strong arm to many-chiefed UN,

in two large ticks.

From dust to dust

Now to

Freeze--wait--reanimate,

UNTIL

Methuselah-arm grasps

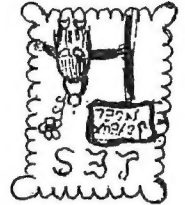
the tree,

To shake a second fruit.

by

W.L. Neal, Jr.

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The artist, Ernest Fiore's, impression of the new LES building.